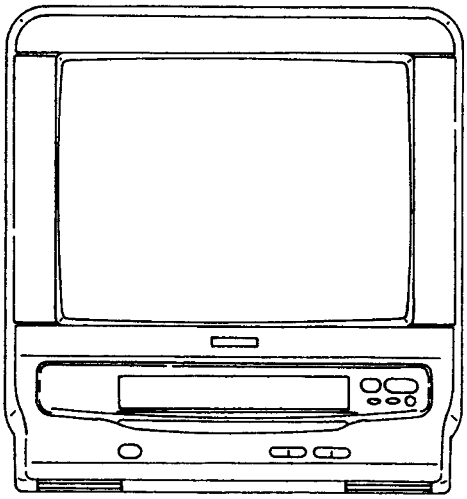
aiwa

V04579

VX-T1400
VX-T1410



INTEGRATED COLOR TV/ VIDEO CASSETTE RECORDER

SERVICE MANUAL

- BASIC VIDEO MECHANISM : OVD－4
- TYPE. AE,K

SPECIFICATIONS

GENERAL

POWER SOURCE
  VX-T1410K·····················AC 240V (50Hz)
  VX-T1400AE···················AC 230V (50Hz)
POWER CONSUMPTION···93 W
WEIGHT···························13.6 Kg
DIMENSIONS ····················375(W)x388(D)x 400(H) mm

TV SECTION

PICTURE SIZE··················34 cm (diagonal) 90° degree deflection
SYSTEM ··························PAL
FREQUENCY RANGE
  VX-T1410K: UHF ··········21-69 ch
  VX-T1400AE: VHF(L)·······E2-Z+2 ch
    VHF(H)······S1-S20 ch
    UHF ··········E21-E69 ch
TUNER ···························Electronic tuner
AUDIO OUTPUT POWER···1.5 W (MAX)
SPEAKER·························7.7cm, 8 ohm

VCR SECTION

OPERATING TEMPERATURE·····5°C to 40°C
VIDEO SIGNAL ························CCIR 625 lines, 50 fields
VIDEO RECORDING SYSTEM···VHS, 2 rotary heads helical scanning system
LUMINANCE ····························FM recording
TAPE SPEED
  VX-T1410K ····························SP: 23.39 mm/sec
    LP: 11.69 mm/sec
  VX-T1400AE ··························SP: 23.39 mm/sec
FF/REW WINDING TIME ··········Less than 5 minutes (E-180)
INPUT LEVEL
  VX-T1410K ····························Video: 1.0Vp-p 75 ohm unbalance
    Audio: –8dB/50K ohm unbalance
  VX-T1400AE ··························Video: 1.0Vp-p 75 ohm unbalance
    Audio: –3.8dB/50K ohm unbalance
OUTPUT LEVEL
  VX-T1410K ····························Video: 1.0Vp-p 75 ohm unbalance
    Audio: –6dB/50K ohm unbalance
  VX-T1400AE ··························Video: 1.0Vp-p 75 ohm unbalance
    Audio: –3.8dB/50K ohm unbalance

- Desigh and specifications are subject to change without notice.

S/M Code No. 09－939－030－800

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SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.
Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a ⚠ mark, the designated parts must be used.

4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

6. AVOID AN X-LAY

Safety is secured against an X-lay by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.
Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.
Repairing except indicates causes rising of high voltage, and it emits an X-lay from the cathode-ray tube.

7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the eternal exposure metal [Note 2] should be more than 4M ohm by using the 500V insulation resistance meter [Note 1].
4. If the insulation resistance is less than 4M ohm, the inspection repair should be required.

[Note 1]
If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]
External exposure metal: Antenna terminal
Earphone jack

KEY TO ABBREVIATIONS

A	AC	: Alternating Current
	A/C	: Audio/Control
	ACC	: Automatic Color Control
	AE	: Audio Erase
	AFC	: Automatic Frequency Control
	AFT	: Automatic Fine Tuning
	AFT DET	: Automatic Fine Tuning Detect
	AGC	: Automatic Gain Control
	AMP	: Amplifier
	ANT	: Antenna
	A.PB	: Audio Playback
	APC	: Automatic Phase Control
	ASS'Y	: Assembly
	AT	: All Time
	ATT	: Attenuator
	AUTO	: Automatic
	A/V	: Audio/Video
B	BGP	: Burst Gate Pulse
	BOT	: Beginning of Tape
	BPF	: Bandpass Filter
	BRAKE SOL	: Brake Solenoid
	BUFF	: Buffer
	B/W	: Black and White
C	C	: Capacitance, Collector
	CASE	: Cassette
	CAP	: Capstan
	CARR	: Carrier
	CCD	: Charged Coupled Device
	CE	: Chip Enable
	CH	: Channel
	CLK	: Clock
	CLOCK(SY-SE)	: Clock(Syscon to Servo)
	COMB	: Combination, Comb Filter
	CONV	: Converter
	CPM	: Capstan Motor
	CTL	: Control
	CYL	: Cylinder
	CYL-M	: Cylinder-Motor
	CYL SENS	: Cylinder Sensor
D	DATA(SY-SE)	: Data(Syscon to Servo)
	dB	: Decibel
	DC	: Direct Current
	DD Unit	: Direct Drive Motor Unit
	DEMOD	: Demodulator
	DET	: Detector
	DEV	: Deviation
E	E	: Emitter
	EE	: Electric to Electric
	EF	: Emitter Follower
	EMPH	: Emphasis
	ENC	: Encoder
	ENV	: Envelope
	EOT	: End of Tape
	EQ	: Equalizer
	EXT	: External
F	F	: Fuse
	FBC	: Feed Back Clamp
	FE	: Full Erase
	FF	: Fast Forward, Flipflop
	FG	: Frequency Generator
	FL SW	: Front Loading Switch
	FM	: Frequency Modulation
	FSC	: Frequency Sub Carrier
	FWD	: Forward
G	GEN	: Generator
	GND	: Ground
H	H	: High
	H.P.F	: High Pass Filter
	H.SW	: Head Switch
	Hz	: Hertz
I	IC	: Integrated Circuit
	IF	: Intermediate Frequency
	IND	: Indicator
	INT	: Interrupt
	INV	: Inverter
K	KIL	: Killer
L	L	: Left
	LED	: Light Emitting Diode
	LIMIT AMP	: Limiter Amplifier
	LM, LDM	: Loading Motor
	LOAD	: Loading
	LP	: Long Play
	L.P.F	: Low Pass Filter
	LUMI	: Luminance
M	M	: Motor
	MAX	: Maximum
	MIN	: Minimum
	MIX	: Mixer, Mixing
	MM	: Monostable Multivibrator
	MOD	: Modulator, Modulation
	MPX	: Multiplexer, Multiplex
	MS SW	: Mech State Switch
N	NC	: Non Connection
	NR	: Noise Reduction
O	OSC	: Oscillator
	OPE	: Operation
	OR EQ	: Or Equivalent
P	PB	: Playback
	PB CTL	: Playback Control
	PB-C	: Playback-Chrominance
	PB-Y	: Playback-Luminance
	PCB	: Printed Circuit Board
	P.CON	: Power Control
	PD	: Phase Detector
	PG	: Pulse Generator
	p-p	: Peak-to-Peak
	PWM	: Pulse Width Modulation
	PWM TV	: Pulse Width Modulated Tuning Voltage
R	R	: Right
	REC	: Recording
	REC-C	: Recording-Chrominance
	REC-Y	: Recording-Luminance
	REEL BRK	: Reel Brake
	REEL S	: Reel Sensor
	REF	: Reference
	REG	: Regulated, Regulator
	REW	: Rewind
	REV	: Reverse
	RF	: Radio Frequency
	RMC	: Remote Control
	RVS	: Reverse
	RY	: Relay
S	S.CLK	: Serial Clock
	S.COM	: Sensor Common
	S.DATE	: Serial Date
	SEG	: Segment
	SEL	: Select, Selector
	SENS	: Sensor
	SER	: Search Mode
	SI	: Serial Input
	SIF	: Sound Intermediate Frequency
	SO	: Serial Output
	SOL	: Solenoid
	SP	: Standard Play
	STB	: Serial Strobe
	SW	: Switch
	SYNC	: Synchronization
	SYNC SEP	: Sync Separator, Separation
T	TR	: Transistor
	TRAC	: Tracking
	TRIC PB	: Trick Playback
	TP	: Test Point
U	UNREG	: Unregulated
V	V	: Volt
	VCO	: Voltage Controlled Oscillator
	VIF	: Video Intermediate Frequency
	VP	: Vertical Pulse, Voltage Display
	V.PB	: Video Playback
	VR	: Variable Resistor
	V.REC	: Video Recording
	VSS	: Voltage Super Source
	V-SYNC	: Vertical-Synchronization
	VT	: Voltage Tuning
X	X'TAL	: Crystal
Y	Y	: Luminance
	Y/C	: Luminance/Chrominance

PREVENTIVE CHECKS AND SERVICE INTERVALS

The following standard table depends on environmental conditions and usage. Unless maintenance is properly carried out, the following service intervals may be quite shortened as harmful effects may be had on other parts. Also, long term storage or misuse may cause transformation and aging of rubber parts.

Time / Parts Name	500 hours	1,000 hours	1,500 hours	2,000 hours	3,000 hours	Notes
Audio Control Head	■	■	■	■	■	Clean those parts in contact with the tape.
Full Erase Head	■	■	■	■	■	
Reel Belt		■		●		Clean the rubber, and parts which the rubber touches.
Front Loading Belt		■		●		
Pinch Roller	■	■	■	■	■●	
Capstan DD Unit					●	
Loading Motor					●	
Tension Band Ass'y					●	
Capstan Shaft	■	■	■	■	■	
Tape Running Guide Post	■	■	■	■	■	Replace when rolling becomes abnormal.
Cylinder Unit	■	■●	■	■●	■●	Clean the head

● : Replace, ■ : Clean

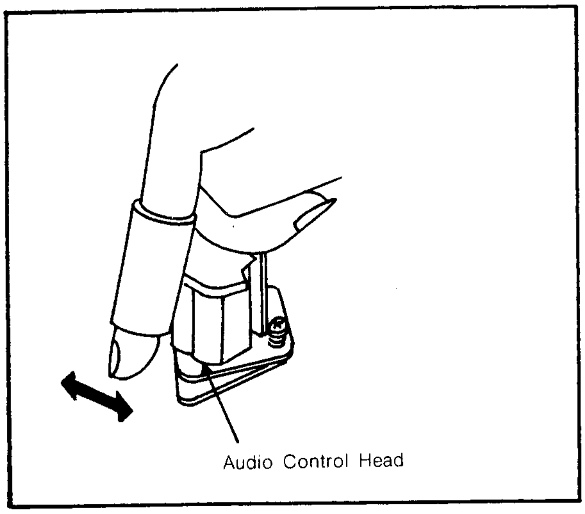
CLEANING

NOTE

- After cleaning the heads with isopropyl alcohol, do not run a tape until the heads dry completely. If the heads are not completely dry and alcohol gets on the tape, damage may occur.

1. AUDIO CONTROL HEAD

- Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol and clean the audio control head by wiping it horizontally. Clean the full erase head in the same manner.
  (Refer to the figure below)



2. TAPE RUNNING SYSTEM

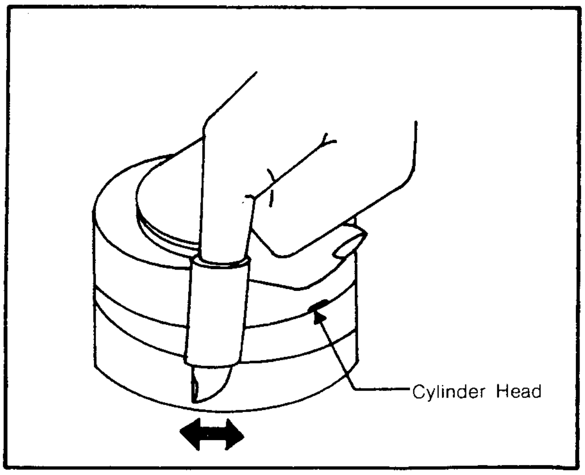
- When cleaning the tape transport system, use the gauze moistened with isopropyl alcohol.

3. CYLINDER

- Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol and clean the cylinder head. Move the chamois horizontally several times (in the direction of the arrow).
  (Refer to the figure below)

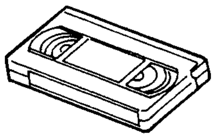
NOTE

Do not exert force against the cylinder head. Do not move the chamois up or down since this can damage the head. Always use a piece of chamois for cleaning.

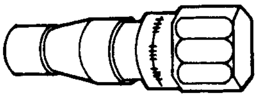


SERVICING FIXTURES AND TOOLS

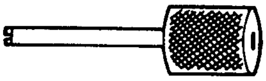
VHS Alignment Tape
JG001E(TTV-P2)
JG001F(TTV-P1)



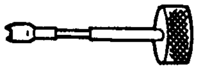
JG002B Adapter
JG002F Dial Torque Gauge (60~600gr/cm)
JG002G (100~1200gr/cm)



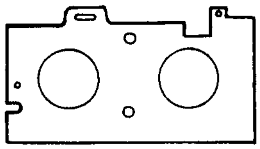
JG005 Post Adjustment Screwdriver



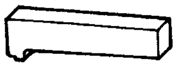
JG021 X-Nut Adjustment Screwdriver



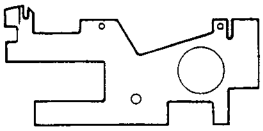
JG022 Master Plane



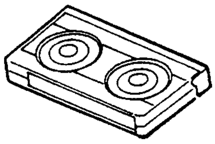
JG024 Reel Disk Height Adjustment Jig



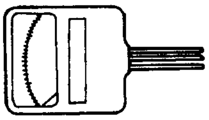
JG036 Tension Post Adjustment Jig



JG100 Torque Tape (VHT-103)



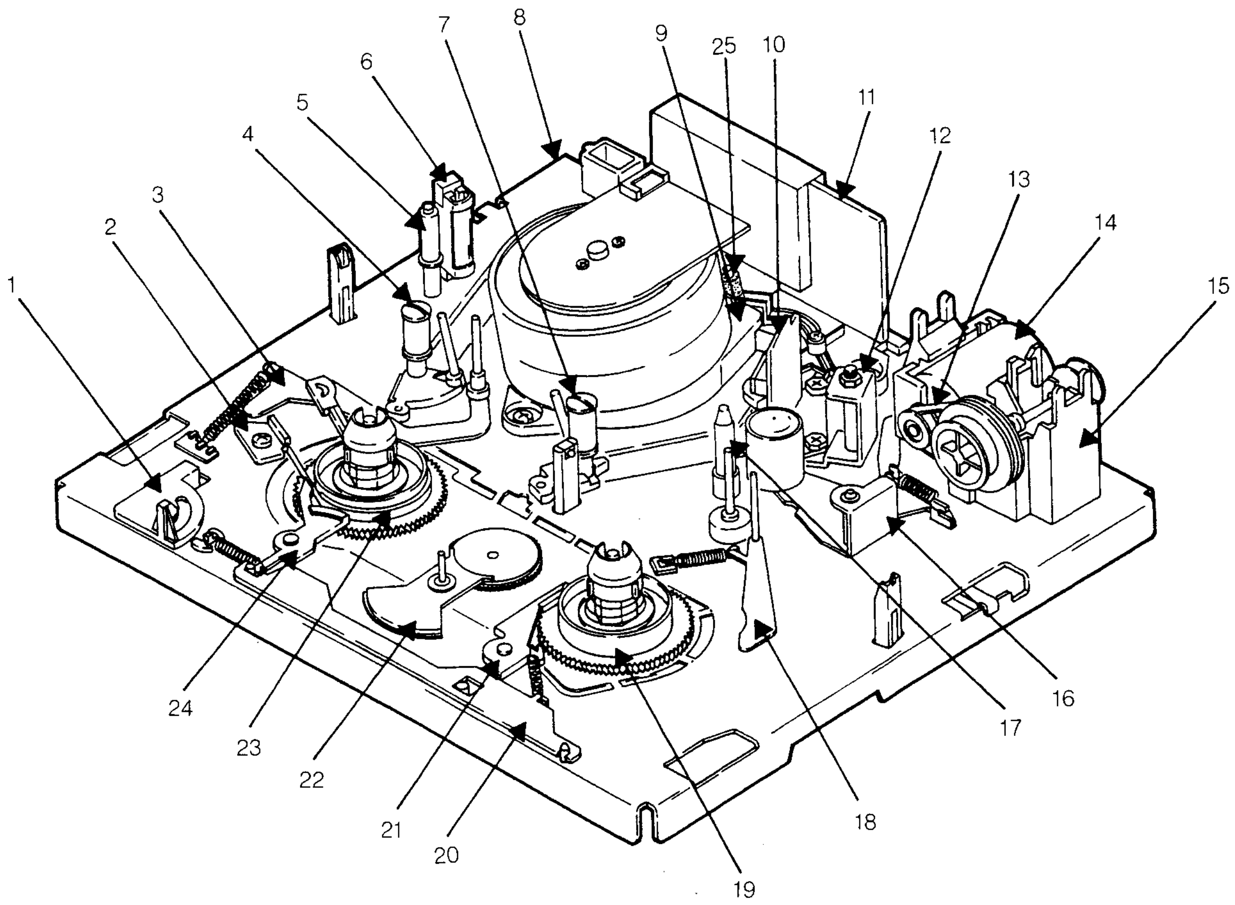
Tentelometer



Part No.	Remarks
JG001E	Stair Steps, 6 KHz
JG001F	Color Bar, 1 KHz
JG002F	Playback Take Up Torque
JG002G	Fast Forward Torque, Rewind Torque, Brake Torque(Take up Reel/Supply Reel)
JG005	Guide Roller Adjustment
JG021	X-Nut Adjustment
JG022/JG024	Reel Disk Height Adjustment
JG036	Tension Post Adjustment
JG100	Playback Back Tension Torque

DECK PART LOCATIONS

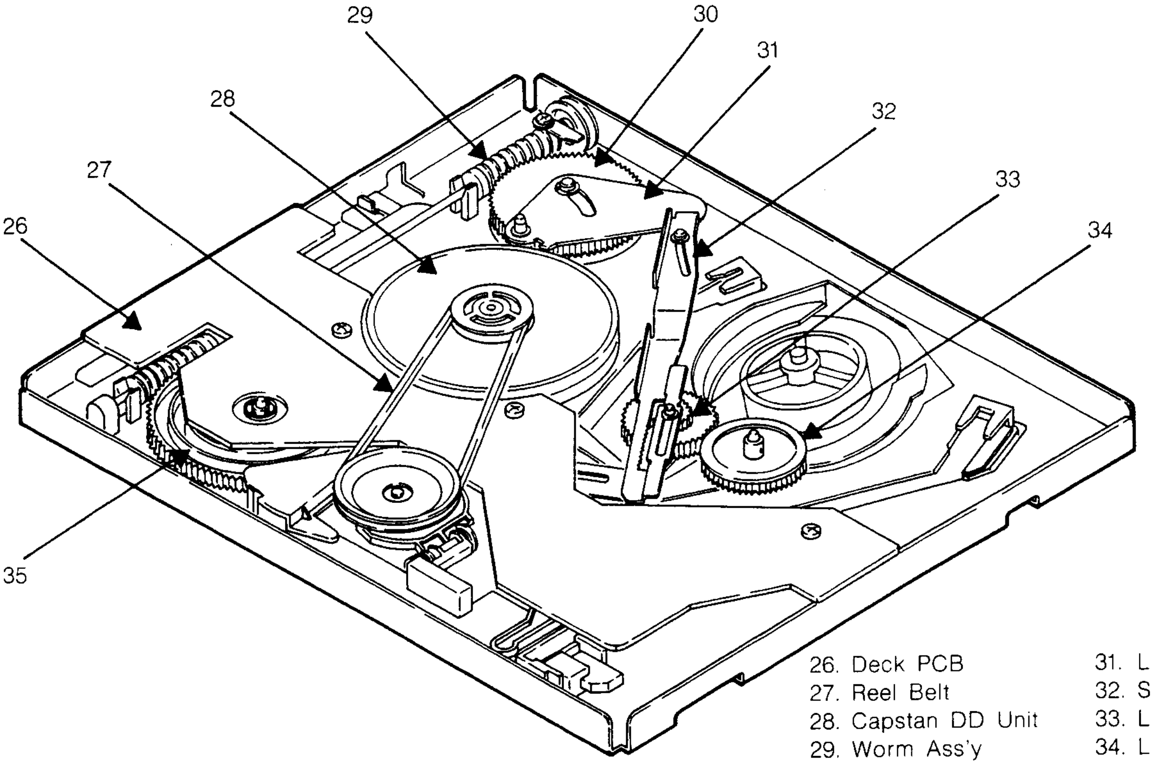
(TOP VIEW)



1. REC SW Lever
2. Tension Band Ass'y
3. Tension Arm Ass'y
4. Guide Roller Ass'y
5. P1 Post
6. Full Erase Head
7. Guide Roller Ass'y
8. Main Chassis
9. Cylinder Unit
10. A/C Head
11. Head Amp PCB
12. A/C Head Base
13. Front Loading Belt
14. Loading Motor
15. Loading Motor Box Ass'y
16. Pinch Roller Arm Ass'y
17. P4 Post
18. Limiter Post Arm Ass'y
19. Reel Disk T Ass'y
20. Actuator Sub Brake
21. TS Brake 2 Ass'y
22. Idler Ass'y
23. Reel Disk S Ass'y
24. SS Brake Arm
25. Auto Head Cleaner

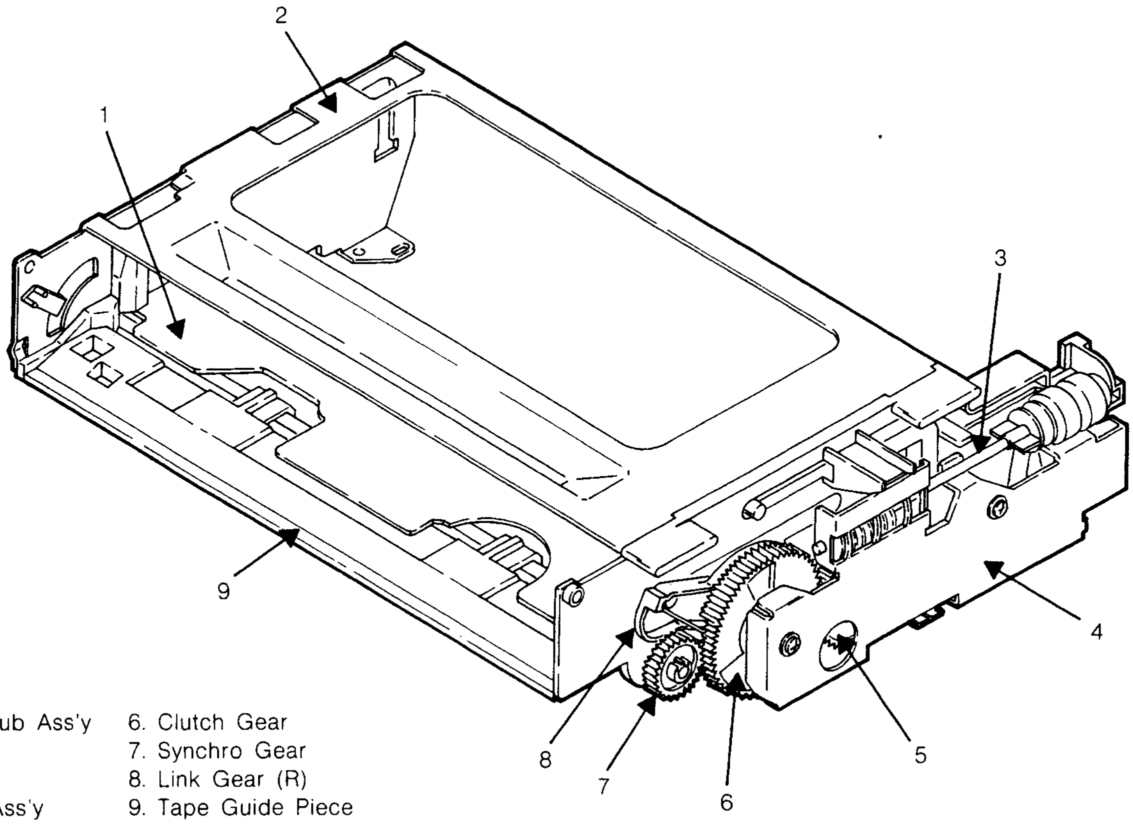
DECK PART LOCATIONS

(BOTTOM VIEW)



26. Deck PCB
27. Reel Belt
28. Capstan DD Unit
29. Worm Ass'y
30. Cam 1
31. Loading Lever 2 Ass'y
32. Slide Loading 2
33. Loading Gear T Ass'y
34. Loading Gear S Ass'y
35. Cam 2

(FRONT LOADING UNIT)



1. Cassette Holder Sub Ass'y
2. Top Bracket Ass'y
3. Worm Ass'y
4. Side Bracket R2 Ass'y
5. Wheel
6. Clutch Gear
7. Synchro Gear
8. Link Gear (R)
9. Tape Guide Piece

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: REMOVAL OF BACK CABINET (Refer to Fig. 1-1)

1. Remove the 6 screws ① which are use for holding the Back Cabinet.
2. Disconnect the following connector. (CP351 2 pin)
3. Remove the Back Cabinet.

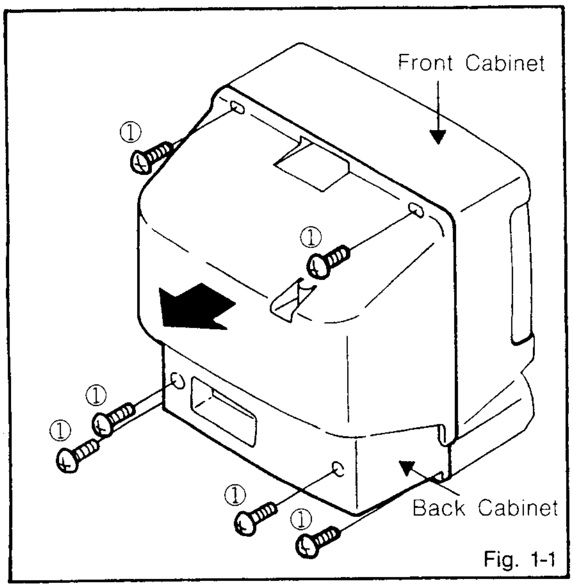


Fig. 1-1

Screw Dimension

①

CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE.

1-2: REMOVAL OF TV/VCR BLOCK (Refer to Fig. 1-2)

1. Remove the CRT PCB in the direction of arrow Ⓐ, then unplug the following connector. (CP801 2 pin)
2. Remove the Anode Cap.
3. Remove the 2 screws ①.
4. Disconnect the following connectors. (CP2501 5 pin, CP2502 4 pin, CP1002 6 pin, CP8010 9 pin, CP8011 3 pin)
5. Slide out the VCR Block in the direction of arrow Ⓑ.
6. Disconnect the following connectors. (CP401 4 pin, CP502 2 pin)
7. Unlock the 2 supports ② and slide out the TV Main PCB in the direction of arrow Ⓒ.

The speaker cannot be removed before removing the Earphone PCB (PCB390).

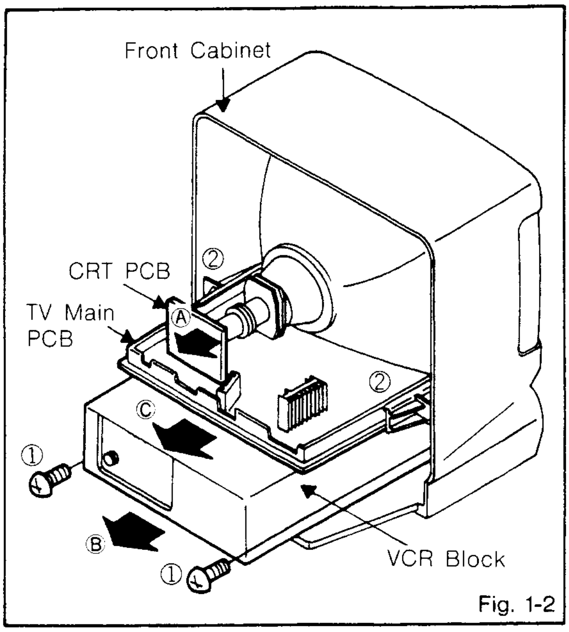
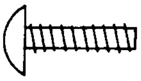


Fig. 1-2

Screw Dimension

①



1-3: REMOVAL OF OPERATION 2 PCB (Refer to Fig. 1-3)

1. Remove the 2 screws ①.
2. Remove the Operation 2 PCB in the direction of arrow.

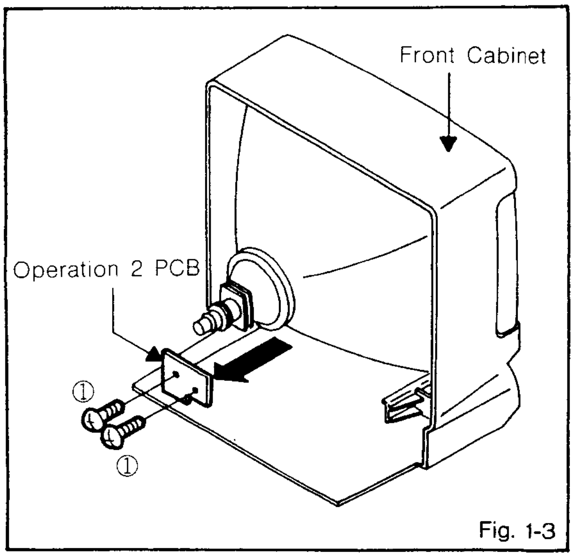
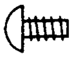


Fig. 1-3

Screw Dimension

①



DISASSEMBLY INSTRUCTIONS

1-4: REMOVAL OF TOP CABINET AND OPERATION 1 PCB (Refer to Fig. 1-4)

1. Remove the 2 screws ①.
2. Remove the 2 screws ②.
3. Remove the Noise Shield Plate in the direction o of arrow Ⓐ.
4. Remove the Top Cabinet in the direction of arrow Ⓑ.
5. Unlock the 2 supports ③ then remove the Operation 1 PCB in the direction of arrow Ⓒ.

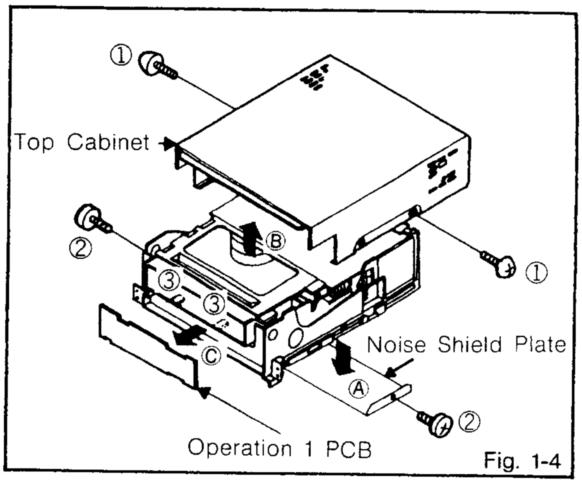
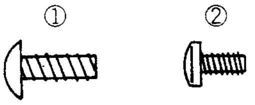

①
Top Cabinet
②
Ⓑ
③
③
①
Ⓒ
Noise Shield Plate
Ⓐ
②
Operation 1 PCB

Fig. 1-4

Screw Dimensions



1-5: REMOVAL OF FLAP (Refer to Fig. 1-5)

1. Remove the hook ① of the Flap in the direction of arrow Ⓐ. (Remove the hook so that the whole Flap is bent.)
2. Remove the other side of hook ② in the direction of arrow Ⓑ.

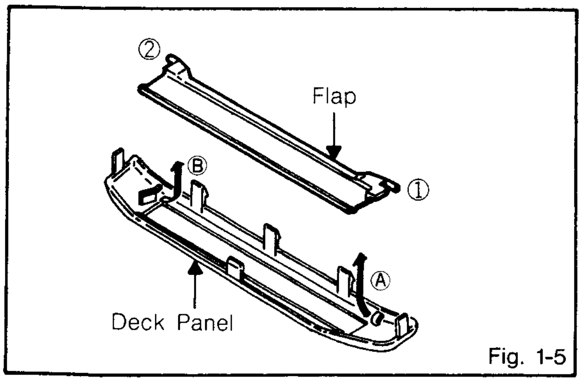

②
Flap
Ⓑ
①
Ⓐ
Deck Panel

Fig. 1-5

1-6: LOCATION OF PRINTED CIRCUIT BOARDS. (Refer to Fig. 1-6)

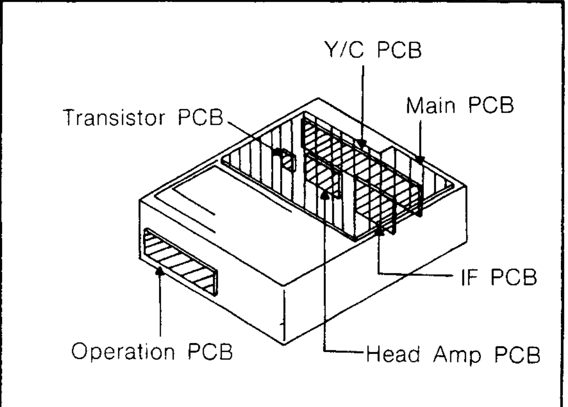

Y/C PCB
Transistor PCB
Main PCB
IF PCB
Operation PCB
Head Amp PCB

Fig. 1-6

CAUTION: BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

1-7: REMOVAL OF MAIN PCB (Refer to Fig. 1-7)

1. Remove the 2 screws ①.
2. Remove the 2 screws ②.
3. Unlock the 2 supports ③ and remove the Main PCB in the direction of arrow Ⓐ, then disconnect the following connectors. (CP2001 2 pin, CP2003 9 pin, CP2004 17 pin, CP4102 7 pin, CP5001 5 pin, CP2002 6 pin of Cylinder Unit.)
4. Remove the Transistor PCB. **(Refer to item 1-8)**
5. Remove the screw ④ and release the wire Earth.
6. Remove the screw ⑤.
7. Remove the screw ⑥.
8. Remove the Jack Plate in the direction of arrow Ⓑ.
9. Remove the soldering of If PCB and Y/C PCB.

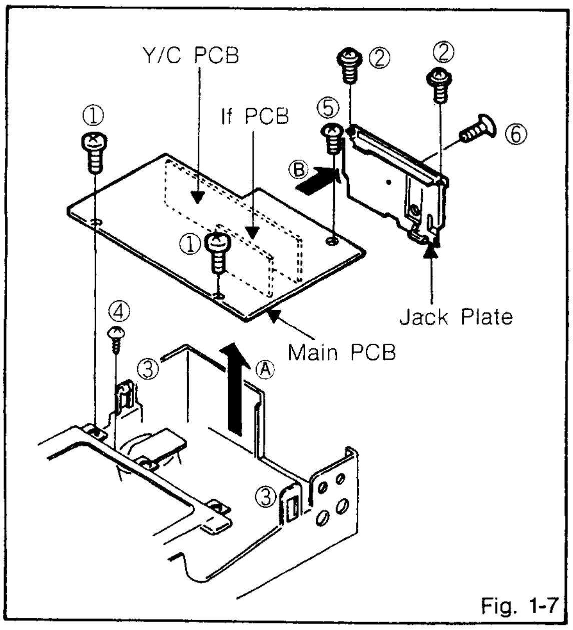
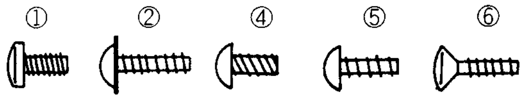

Y/C PCB
②
②
①
If PCB
⑤
⑥
Ⓑ
①
Jack Plate
④
Main PCB
③
Ⓐ
③

Fig. 1-7

Screw Dimensions



1-8: REMOVAL OF TRANSISTOR PCB (Refer to Fig. 1-8)

1. Insert a small flat-blade Screwdriver into the Transistor Spring.
2. Expand the Transistor Spring in the direction of arrow by using a Screwdriver.
3. Hold both edges of the Transistor PCB (Ⓐ part) with your fingers and pull out the Transistor PCB while turning the Screwdriver.

NOTES
1. The unit should be unplugged from the AC outlet.
2. Do not scratch or mar the Cylinder.
3. Be careful not to split the Transistor PCB.
4. If the Transistor Spring is broken when holding or removing the Transistor PCB, replace with a new one.

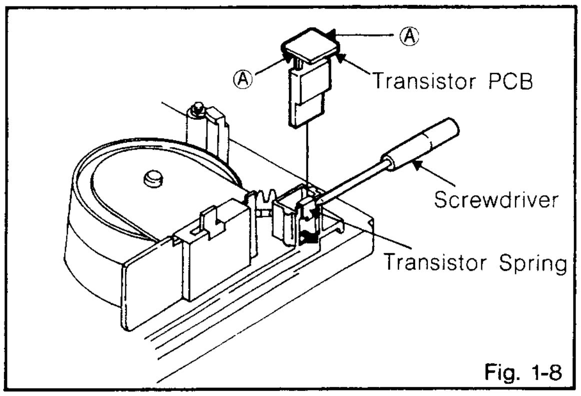

Ⓐ
Ⓐ
Transistor PCB
Screwdriver
Transistor Spring

Fig. 1-8

1-9: REMOVAL OF FRONT LOADING UNIT AND CHASSIS SECTION (Refer to Fig. 1-9)

1. Remove the 2 screws ①.
2. Remove the screw ②.
3. Remove the Front Loading Belt.
4. Remove the Front Loading Unit in the direction of arrow Ⓐ.
5. Remove the 3 screws ③.
6. Unlock the 2 supports ④ and remove the Chassis Section in the direction of arrow Ⓑ.

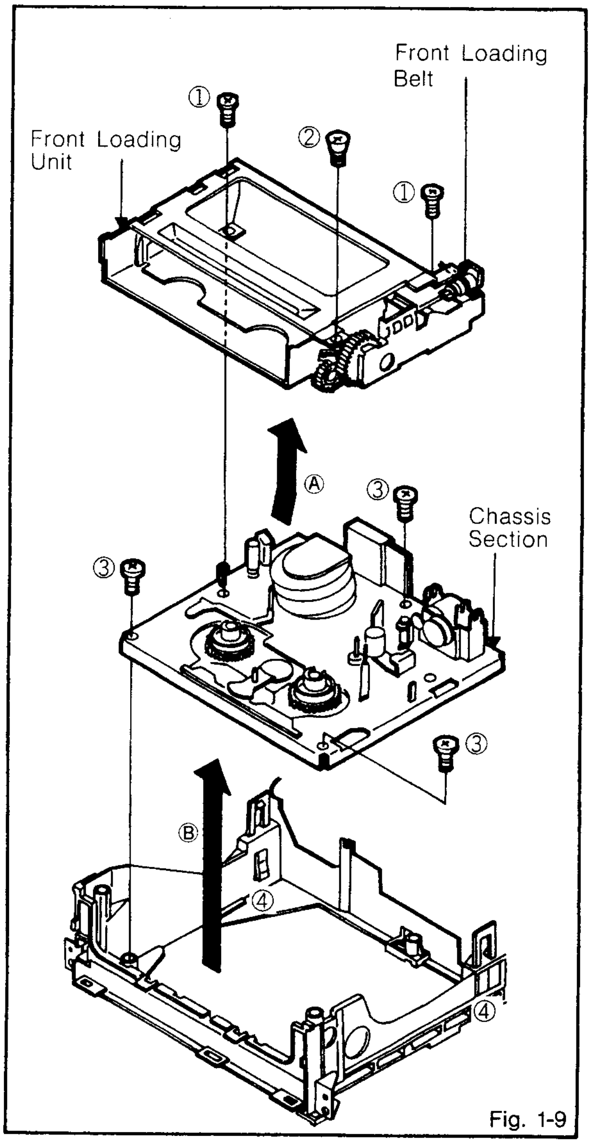
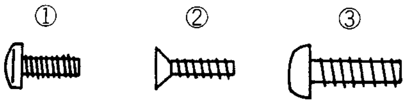

Front Loading Belt
①
Front Loading Unit
②
①
Ⓐ
③
Chassis Section
③
③
Ⓑ
④
④

Fig. 1-9

Screw Dimensions



2. REMOVAL OF DECK PARTS

2-1: ACTUATOR SUB BRAKE / IDLER ASS'Y (Refer to Fig. 2-1)

1. Remove the polyslider washer ①.
2. Remove the Idler Ass'y.
3. Remove the TS Brake Spring.
4. Remove the Actuator Sub Brake.

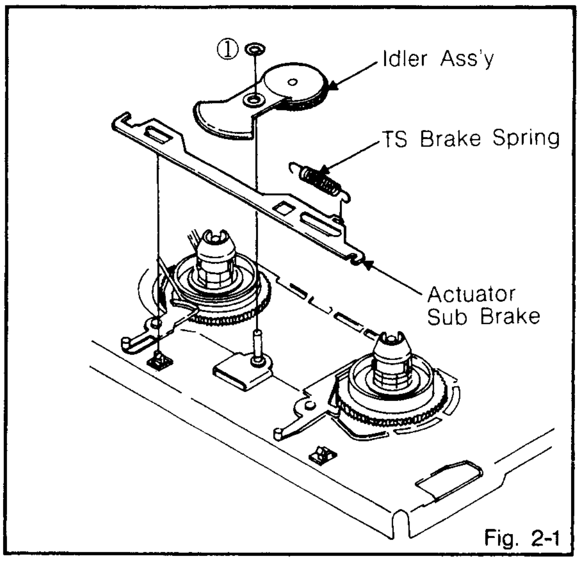


Fig. 2-1

2-2: TENSION BAND (Refer to Fig. 2-2)

1. Remove the Actuator Sub Brake.
2. Remove the SS Brake Spring, then remove the SS Brake Arm.
3. Remove the screw ①.
4. Remove the Tension Band Ass'y from the Tension Arm Ass'y.

NOTES

1. Install the Tension Band Ass'y without twisting it.
2. Adjust the placement of the Tension Post. **(Refer to item 1-2 of MECHANICAL ADJUSTMENTS)**
3. Adjust and confirm the back tension during playback. **(Refer to item 1-3 of MECHANICAL ADJUSTMENTS)**

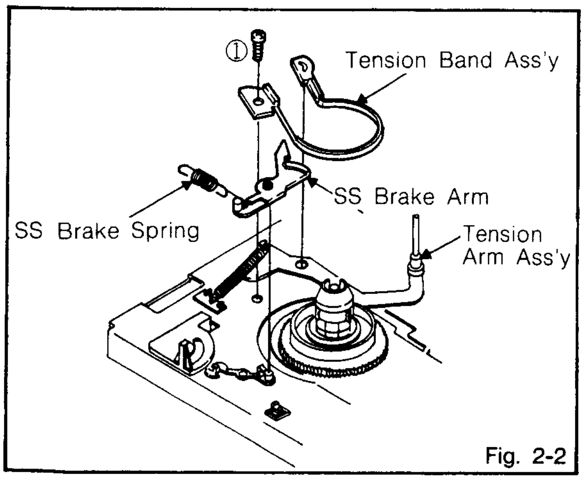


Fig. 2-2

2-3: REEL DISK (Refer to Fig. 2-3)

(Reel Disk S Ass'y)

1. Remove the Actuator Sub Brake.
2. Remove the SS Brake Spring, then remove the SS Brake Arm.
3. Remove the Tension Band ass'y from the Tension Arm Ass'y.
4. Remove the polyslider washer ①.
5. Pull the Reel Disk S Ass'y upward and replace it.

(Reel Disk T Ass'y)

1. Remove the Actuator Sub Brake.
2. Remove the TS Brake Spring.
3. Move the TS Brake Ass'y in the direction of arrow.
4. Remove the polyslider washer ②.
5. Pull the Reel Disk T Ass'y upward and replace it.

NOTES

1. The height adjustment washers ③ are sometimes attached to the back of the Reel Disk.
2. Clean the Reel Disk Shaft and put in height adjusting washers ③.
3. Be careful not to damage the Tension Band Ass'y at the time of removal and installation.
4. Be careful not to scratch the Reel Disk Shaft with the polyslider washer or the tool at the time of removal and installation.
5. After oiling (Cosmo Oil Hydro HV100) the Reel Disk Shaft, install the new Reel Disk S Ass'y and Reel Disk T Ass'y again.
6. After installation, adjust the height of the Reel Disk. **(Refer to item 1-1 of MECHANICAL ADJUSTMENTS)**
7. After installation, adjust and confirm the tension post position. **(Refer to item 1-2 of MECHANICAL ADJUSTMENTS)**

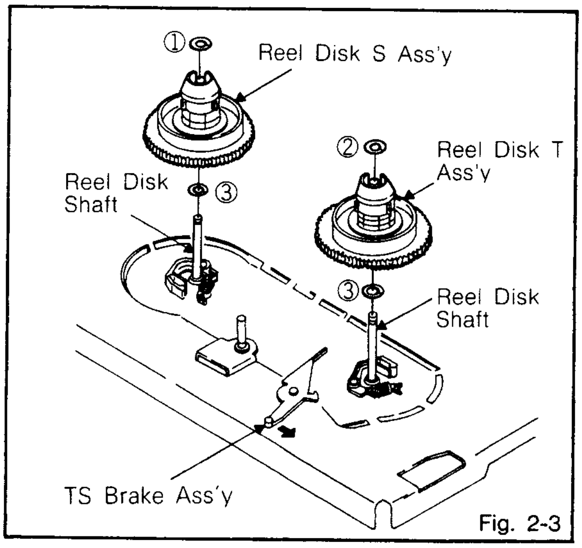


Fig. 2-3

2-4: A/C HEAD (Refer to Fig. 2-4)

1. Disconnect the 2 connectors (2 pin and 6 pin) on the A/C Head PCB.
2. Remove the screws ①, ② and ③.

NOTE
Do not touch the heads by any means when replacing the A/C Head.

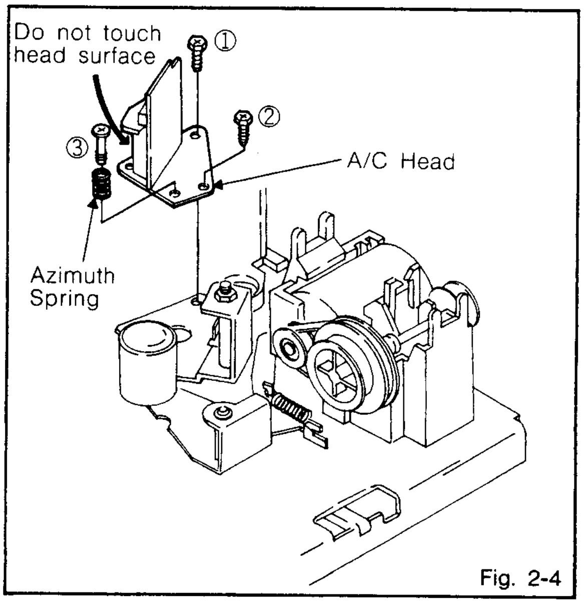

Do not touch head surface
①
②
③
A/C Head
Azimuth Spring

Fig. 2-4

2-5: LOADING MOTOR (Refer to Fig. 2-5)

1. Remove the 2 wires soldered to the Loading Motor.
2. Remove the lead wire in the hook of the Loading Motor Box.
3. Remove the Loading Motor Belt.
4. Remove the 2 screws ①, then remove the Loading Motor Box.
5. Remove the Front Loading Belt.
6. Remove the 2 screws ②, then lift the Loading Motor upward.

NOTES
1. Clean the pulley when replacing Front Loading Belt and Loading Motor Belt.
2. Avoid getting grease on the Loading Motor Belt and Front Loading Belt.

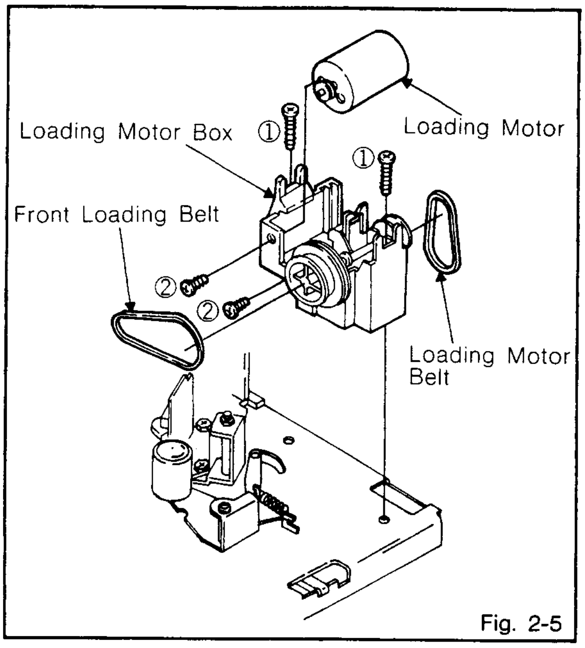

Loading Motor Box
①
①
Loading Motor
Front Loading Belt
②
②
Loading Motor Belt

Fig. 2-5

2-6: PINCH ROLLER ARM (Refer to Fig. 2-6)

1. Remove the Pinch Roller Arm Spring.
2. Remove the polyslider washer ①.
3. Remove the Pinch Roller Arm.

NOTE
Do not touch the Pinch Roller. (Use gloves.)

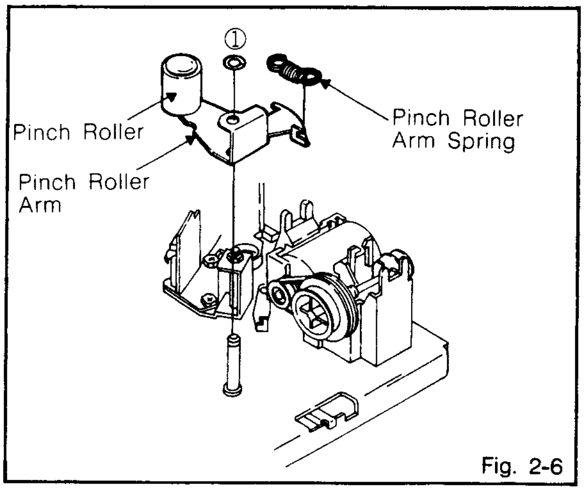

①
Pinch Roller
Pinch Roller Arm Spring
Pinch Roller Arm

Fig. 2-6

2-7: CYLINDER UNIT (Refer to Fig. 2-7)

1. Remove the Transistor PCB.
   (Refer to item 1-8)
2. Disconnect the connector (CP4102 7 pin) from the Head Amp PCB.
3. Remove the 3 screws ①, then remove the Cylinder Unit from the Main Chassis.
4. Disconnect the connector ②.

DISASSEMBLY INSTRUCTIONS

NOTES

1. Do not touch the surface of the Cylinder Head.
2. After replacement, confirm the following adjustments.
   - a. MECHANICAL ADJUSTMENTS : ITEM 2-1
   - b. ELECTRICAL ADJUSTMENTS : ITEM 3-1
   - c. ELECTRICAL ADJUSTMENTS : ITEM 3-2

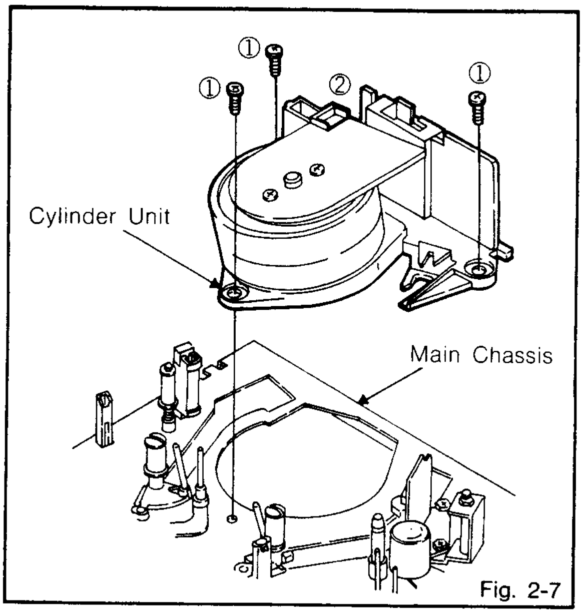


Fig. 2-7

2-8: DECK PCB (Refer to Fig. 2-8)

1. Remove the Reel Belt.
2. Remove the solder Ⓐ positions, remove the 2 screws ① and screw ②.
3. Remove the Deck PCB.

NOTES

1. When installing the Deck PCB, be sure to set the Rotary Switch to the EJECT position. The EJECT position is the point where the Ⓑ tooth is aligned to Ⓒ.
2. Avoid getting grease on the Reel Belt.

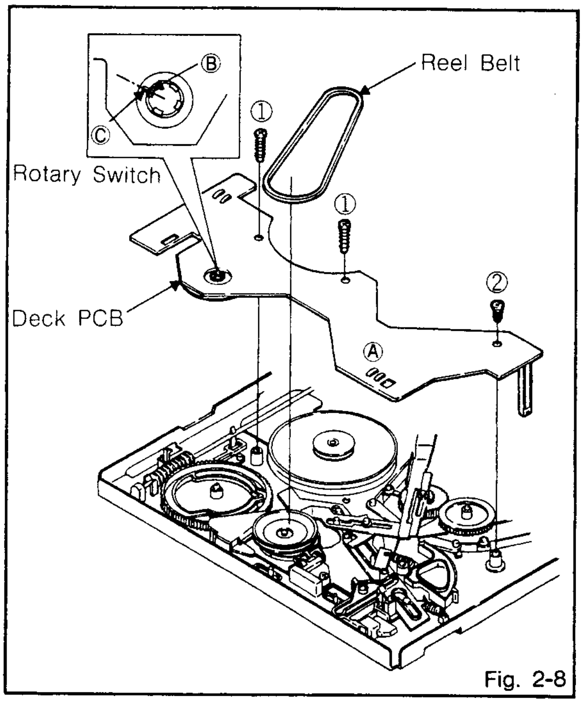


Fig. 2-8

2-9: CAPSTAN DD UNIT (Refer to Fig. 2-9-A, B)

1. Remove the 3 screws ①. **(Refer to Fig. 2-9-A)**
2. Remove the Loading Motor Belt.
3. Remove the screw ①, then remove the Bracket Worm 3.
4. Remove the Worm.
5. Remove the Capstan DD Unit.

NOTES

1. Do not bend the Limiter Post.
2. Use the specified screw held to the Capstan DD Unit.
3. Install in the position where the Capstan DD Unit PCB gets up to the Ⓐ position.

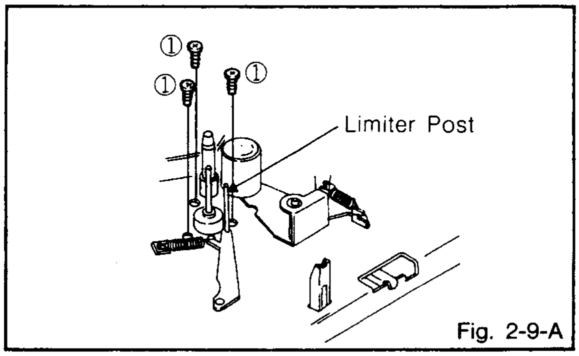


Fig. 2-9-A

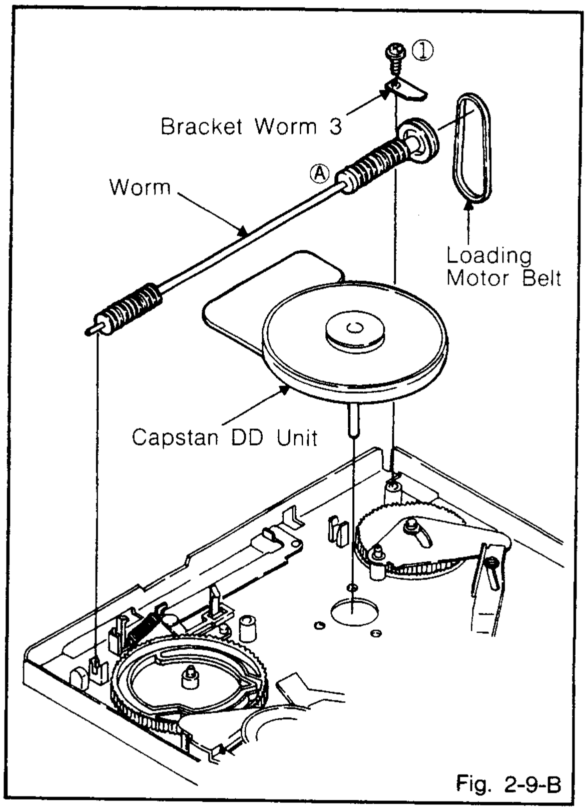

①
Bracket Worm 3
Worm
Ⓐ
Loading Motor Belt
Capstan DD Unit

Fig. 2-9-B

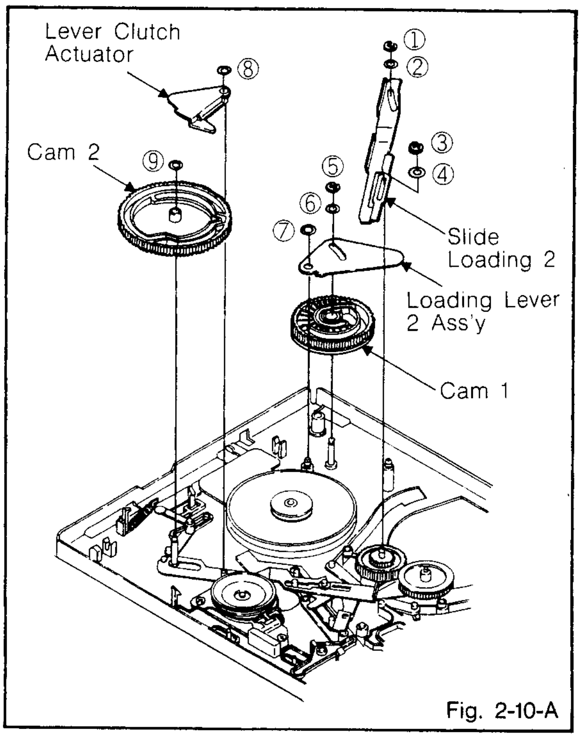

Lever Clutch Actuator
⑧
①
②
Cam 2
⑨
③
④
⑤
⑥
⑦
Slide Loading 2
Loading Lever 2 Ass'y
Cam 1

Fig. 2-10-A

2-10: CAM 1 / CAM 2
(Refer to Fig. 2-10-A, B, C)

1. Remove the E-ring ①, then remove the washer ②.
2. Remove the E-ring ③, then remove the washer ④.
3. Remove the Slide Loading 2.
4. Remove the E-ring ⑤, then remove the washer ⑥.
5. Remove the polyslider washer ⑦.
6. Remove the Loading Lever 2 Ass'y, then remove the Cam 1.
7. Remove the polyslider washer ⑧, then remove the Lever Clutch Actuator.
8. Remove the polyslider washer ⑨, then remove the Cam 2.

NOTE

Be sure to install in the EJECT position.
(Refer to Fig. 2-10-B, C)

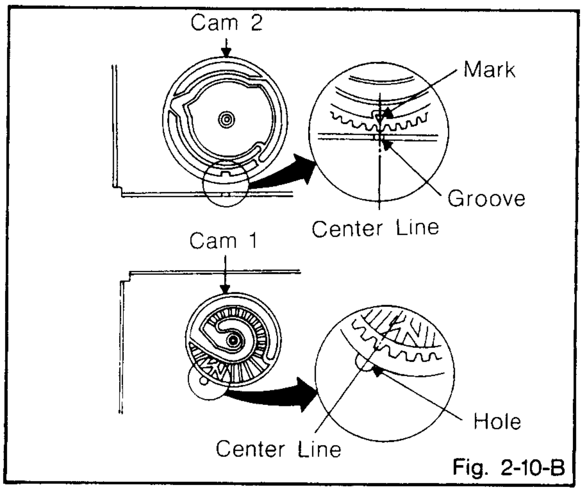

Cam 2
Mark
Groove
Center Line
Cam 1
Hole
Center Line

Fig. 2-10-B

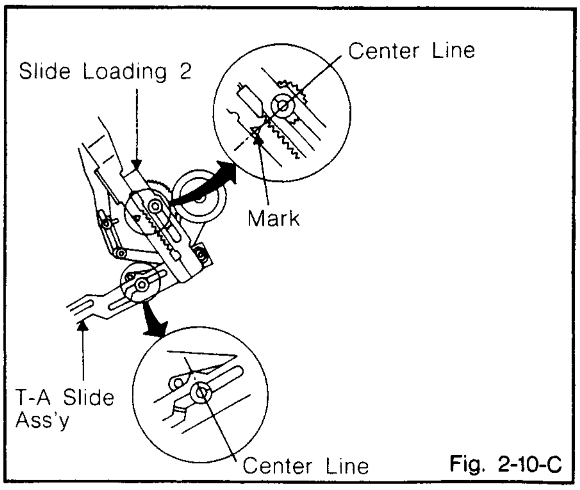

Center Line
Slide Loading 2
Mark
T-A Slide Ass'y
Center Line

Fig. 2-10-C

2-11: LINK GEAR (R) / CLUTCH GEAR (Refer to Fig. 2-11)

1. Remove the 2 screws on the Side Bracket R2 Ass'y and remove the Side Bracket.
2. Remove the Link Gear (R) and Clutch Gear.

NOTES
1. When installing the Link Gear Spring R2 on the Link Gear (R), proceed in order ①, ②, ③ as shown in **Fig. 2-11**.
2. When installing the Link Gear (R), match the position of the Link Gear (R) so that the line over the two ribs on the Synchro Gear goes through the marking hole on the Link Gear (R).

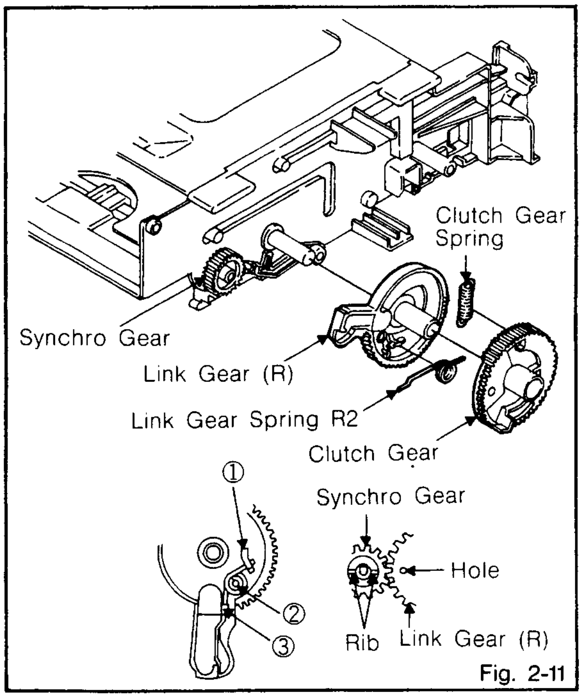

Clutch Gear Spring
Synchro Gear
Link Gear (R)
Link Gear Spring R2
Clutch Gear
①
Synchro Gear
Hole
②
③
Rib
Link Gear (R)

Fig. 2-11

2-12: LINK GEAR (L) (Refer to Fig. 2-12)

1. Remove the Synchro Gear.
2. Remove the Link Gear (L).

NOTES
1. When installing the Link Gear Spring (L) on the Link Gear (L), proceed in order ①, ②, ③ as shown in **Fig. 2-12**.
2. When installing the Synchro Gear, match the position of the Synchro Gear so that the line over the two ribs on the Synchro Gear goes between the marking bosses on the Link Gear (L).

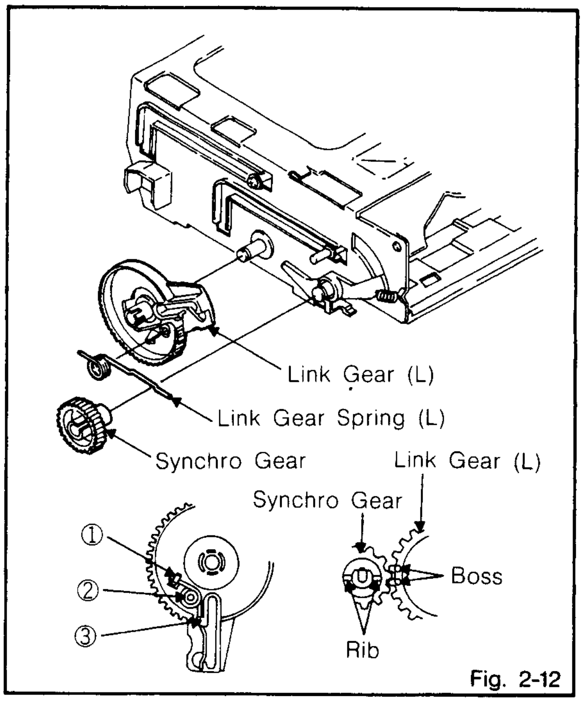

Link Gear (L)
Link Gear Spring (L)
Synchro Gear
Link Gear (L)
Synchro Gear
①
②
③
Boss
Rib

Fig. 2-12

3. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

- * After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
- * Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL
1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 3-1.)**
   Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground. While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.
   A cracking noise will be heard as the voltage is discharged.

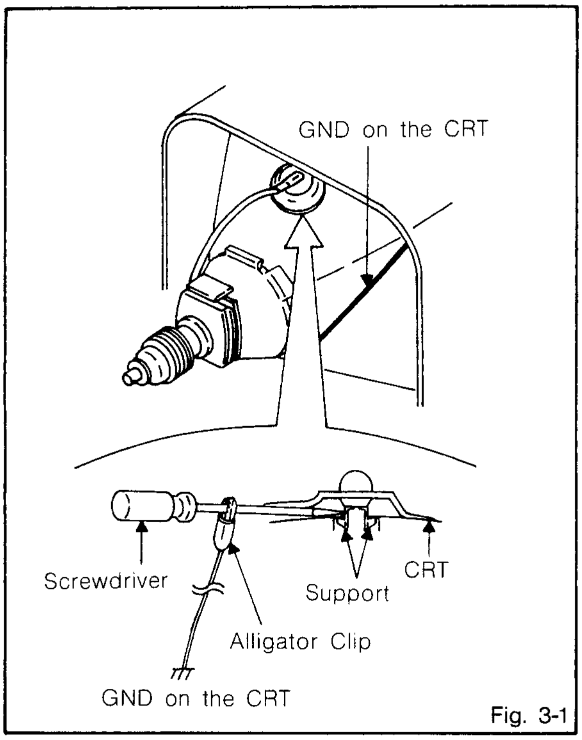

GND on the CRT
Screwdriver
Support
CRT
Alligator Clip
GND on the CRT

Fig. 3-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. **(Refer to Fig. 3-2.)**

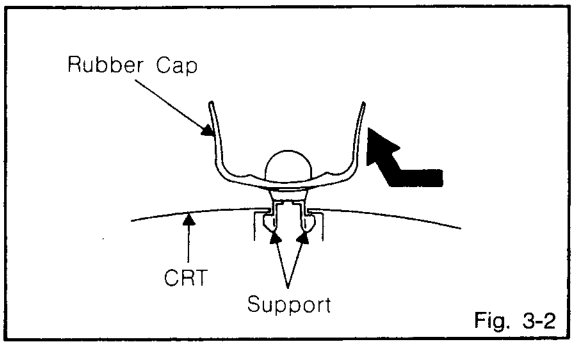

Rubber Cap
CRT
Support

Fig. 3-2

3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 3-3.)**

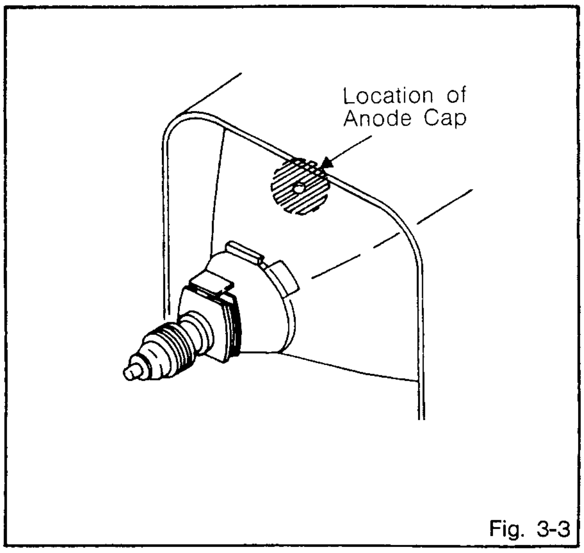

Location of Anode Cap

Fig. 3-3

NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 3-4.)**

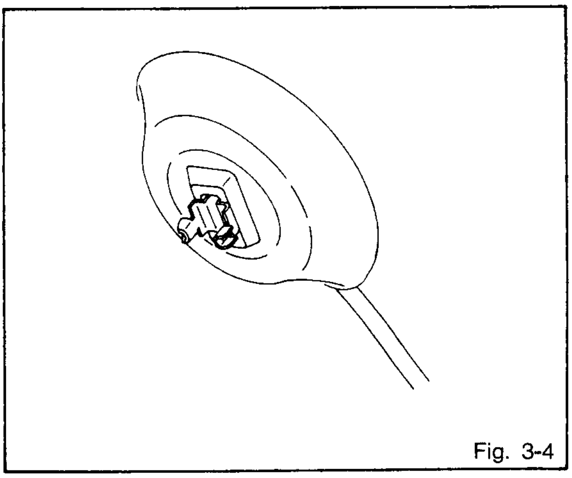


Fig. 3-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in **Fig. 3-5**.

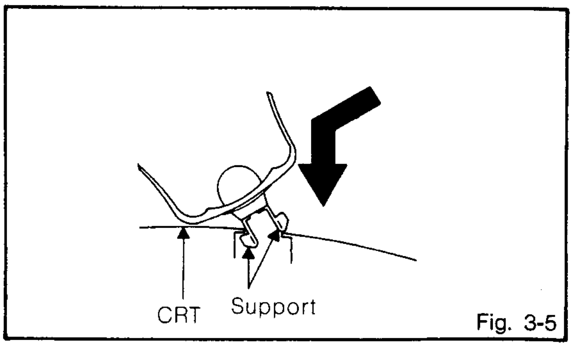

CRT
Support

Fig. 3-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

4. REMOVAL OF DEFLECTION YOKE

REMOVAL (Refer to Fig. 4-1)

1. Loosen the screw ①.
2. Remove the Convergence · Purity Magnet in the direction of arrow Ⓐ.
3. Loosen the screw ②.
4. Remove the 3 Wedges.
5. Remove the Deflection Yoke in the direction of arrow Ⓑ.

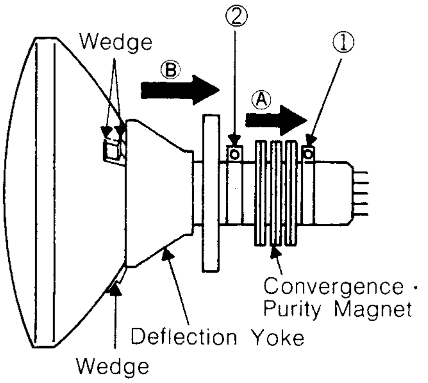

②
Wedge
①
Ⓑ
Ⓐ
Convergence · Purity Magnet
Deflection Yoke
Wedge

Fig. 4-1

INSTALLATION

Install new Deflection Yoke in reverse steps of REMOVAL.

NOTE

After adjusting the purity and the convergence, fix the screw ② and lock the wedges.

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: REMOVAL OF BACK CABINET (Refer to Fig. 1-1)

1. Remove the 6 screws ① which are use for holding the Back Cabinet.
2. Disconnect the following connector. (CP351 2 pin)
3. Remove the Back Cabinet.

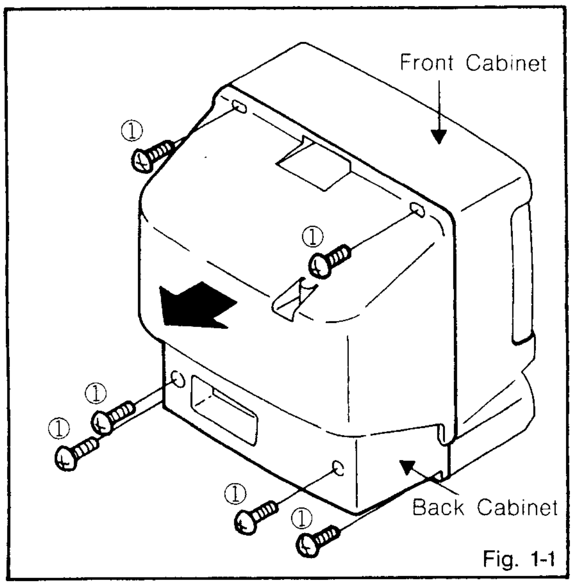


Fig. 1-1

Screw Dimension

①

CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE.

1-2: REMOVAL OF TV/VCR BLOCK (Refer to Fig. 1-2)

1. Remove the CRT PCB in the direction of arrow Ⓐ, then unplug the following connector. (CP801 2 pin)
2. Remove the Anode Cap.
3. Remove the 2 screws ①.
4. Disconnect the following connectors. (CP2501 5 pin, CP2502 4 pin, CP8012 8 pin, CP8010 6 pin, CP8011 3 pin, CP2502 4 pin)
5. Slide out the VCR Block in the direction of arrow Ⓑ.
6. Disconnect the following connectors. (CP401 4 pin, CP502 2 pin)
7. Unlock the 2 supports ② and slide out the TV Main PCB in the direction of arrow Ⓒ.

The speaker cannot be removed before removing the Earphone PCB (PCB390).

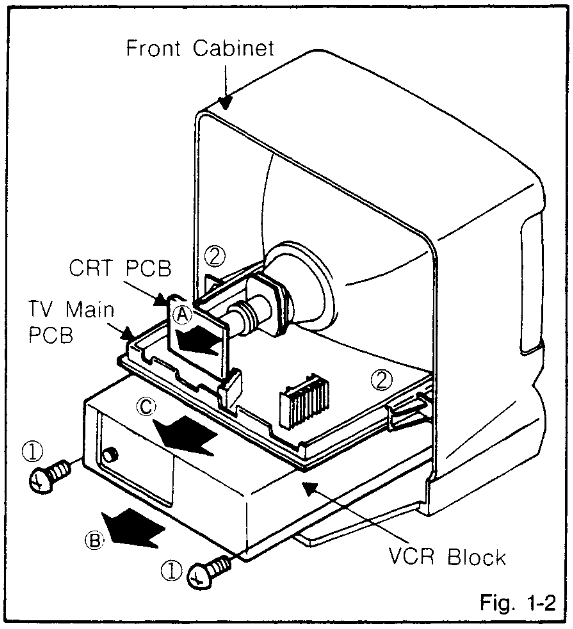
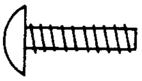


Fig. 1-2

Screw Dimension

①



1-3: REMOVAL OF OPERATION 2 PCB (Refer to Fig. 1-3)

1. Remove the 2 screws ①.
2. Remove the Operation 2 PCB in the direction of arrow.

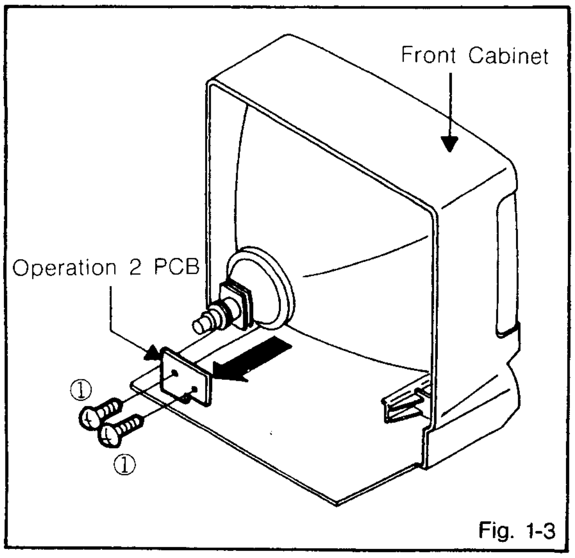


Fig. 1-3

Screw Dimension

①

DISASSEMBLY INSTRUCTIONS

1-4: REMOVAL OF TOP CABINET, BOTTOM CABINET AND OPERATION 1 PCB (Refer to Fig. 1-4)

1. Remove the 2 screws ①.
2. Remove the Top Cabinet in the direction of arrow Ⓐ.
3. Unlock the 2 supports ② then remove the Operation 1 PCB in the direction of arrow Ⓑ.
4. Unlock 3 supported parts ③.
5. Remove the screw ④ and release Bottom Cabinet in the direction of arrow Ⓒ.

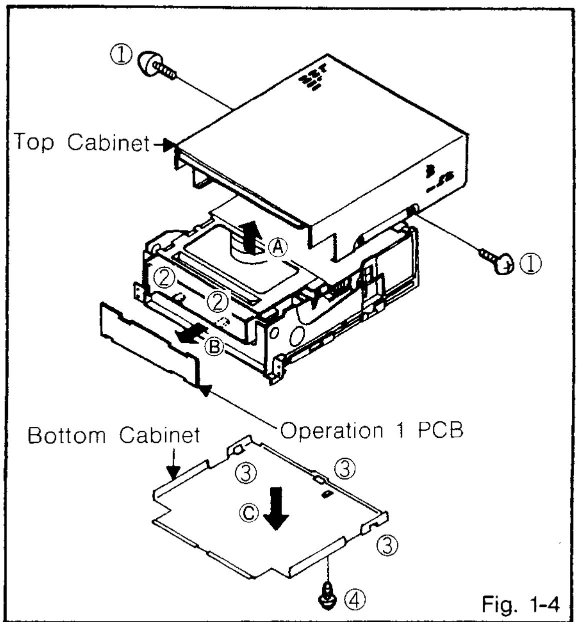
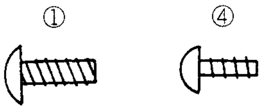

①
Top Cabinet
Ⓐ
①
②
②
Ⓑ
Bottom Cabinet
Operation 1 PCB
③
③
Ⓒ
③
④

Fig. 1-4

Screw Dimensions



1-5: REMOVAL OF FLAP (Refer to Fig. 1-5)

1. Remove the hook ① of the Flap in the direction of arrow Ⓐ. (Remove the hook so that the whole Flap is bent.)
2. Remove the other side of hook ② in the direction of arrow Ⓑ.

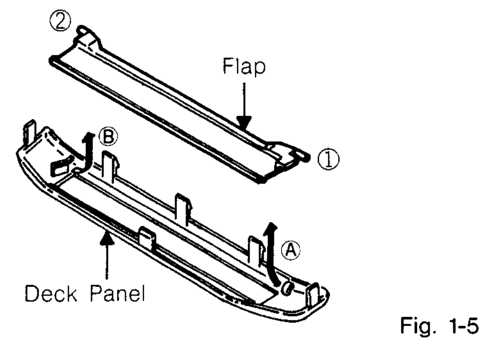

②
Flap
Ⓑ
①
Ⓐ
Deck Panel

Fig. 1-5

1-6: LOCATION OF PRINTED CIRCUIT BOARDS. (Refer to Fig. 1-6)

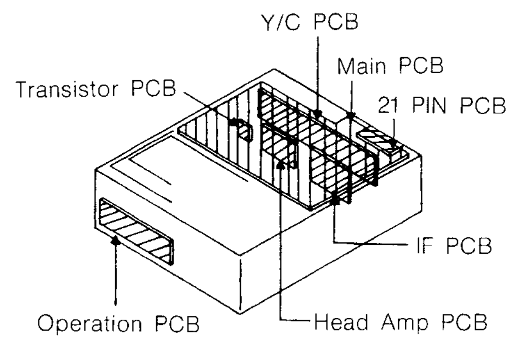

Y/C PCB
Main PCB
Transistor PCB
21 PIN PCB
IF PCB
Operation PCB
Head Amp PCB

Fig. 1-6

CAUTION: BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

1-7: REMOVAL OF MAIN PCB and 21 PIN PCB. (Refer to Fig. 1-7)

1. Remove the 2 screws ①.
2. Remove the 2 screws ②.
3. Unlock the 2 supports ③ and remove the Main PCB in the direction of arrow Ⓐ, then disconnect the following connectors. (CP2001 2 pin, CP2003 9 pin, CP2004 17 pin, CP4102 7 pin, CP5001 5 pin, CP2002 6 pin of Cylinder Unit.)
4. Remove the Transistor PCB. **(Refer to item 1-8)**
5. Remove the screw ④ and release the wire Earth.
6. Remove the screw ⑤.
7. Remove the 2 screws ⑥ and remove the 21 pin PCB.
8. Remove the Jack Plate in the direction of arrow Ⓑ.
9. Remove the soldering of If PCB and Y/C PCB.

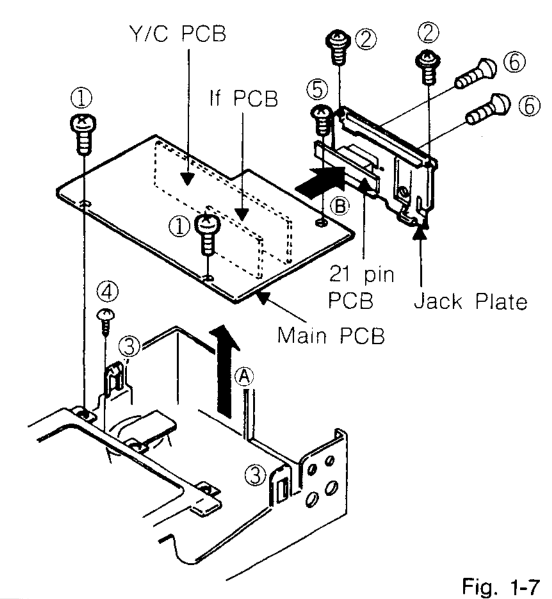
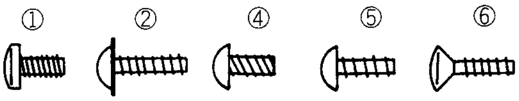

Y/C PCB
②
②
⑥
①
If PCB
⑤
⑥
Ⓑ
①
21 pin PCB
Jack Plate
④
Main PCB
③
Ⓐ
③

Fig. 1-7

Screw Dimensions



MECHANICAL ADJUSTMENTS

1. CONFIRMATION AND ADJUSTMENT

Read the following NOTED items before starting work.

- * Place an object which weighs between 350g and 500g on the Cassette Tape to keep it steady when you want to make the tape run without the front loading unit. (Do not place an object which weighs over 500g.)
- * When you activate the deck without the front loading unit, place a black sleeve over Q1101 (BOT) and Q1102 (EOT). EOT/BOT sensor will not function in this condition. Be sure to return the deck to it's original condition after repairs are completed.

1-1: CONFIRMATION AND ADJUSTMENT OF REEL DISK HEIGHT

1. Turn on the power and set to the STOP mode.
2. Set the master plane **(JG022)** and reel disk height adjustment jig **(JG024)** on mechanism framework, taking care not to scratch the drum, as shown in **Fig. 1-1-A**.
3. Confirm that the reel disk is lower than "A" of the reel disk height adjustment jig **(JG024)** on the master plane and higher than "B" as shown in **Fig. 1-1-B**. If it is not, adjust to less than 7.5mm +0, −0.2mm with the height adjustment washer.
4. Perform the same adjustment for the other reel.

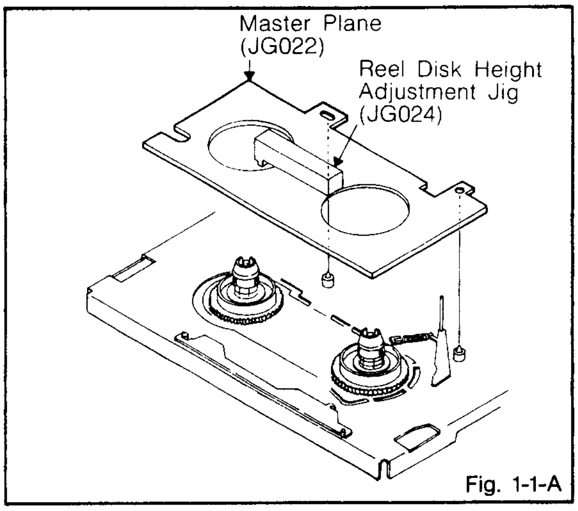

Master Plane
(JG022)
Reel Disk Height
Adjustment Jig
(JG024)

Fig. 1-1-A

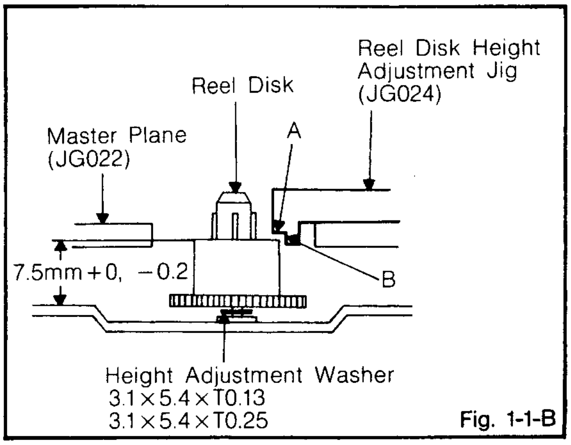

Reel Disk Height
Adjustment Jig
(JG024)
Reel Disk
Master Plane
(JG022)
A
7.5mm +0, −0.2
B
Height Adjustment Washer
3.1×5.4×T0.13
3.1×5.4×T0.25

Fig. 1-1-B

1-2: CONFIRMATION AND ADJUSTMENT OF TENSION POST POSITION

1. Turn on the power and set to the PLAY mode by using the tension post adjustment jig **(JG036)**.
2. Move the tension band adjuster to the "A" or the "B" direction to set tension post adjustment jig red line to the round edge of the tension post. **(Refer to Fig. 1-2)**
3. Confirm that the video tape is not curling at the flange of P1 post or is not running on flanges.

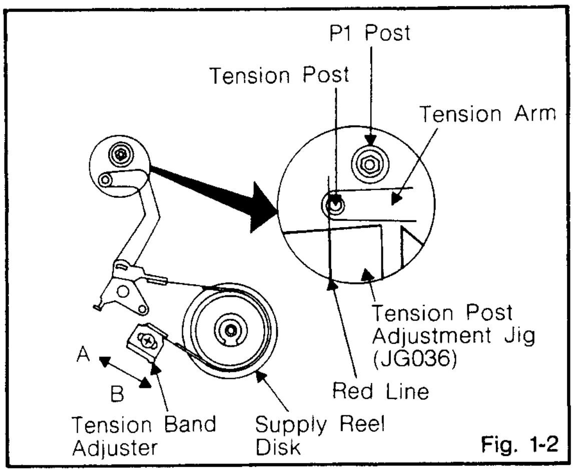

P1 Post
Tension Post
Tension Arm
Tension Post
Adjustment Jig
(JG036)
A
B
Red Line
Tension Band
Adjuster
Supply Reel
Disk

Fig. 1-2

1-3: CONFIRMATION AND ADJUSTMENT OF BACK TENSION ON PLAYBACK

1. Load a video tape recorded in standard speed mode. Set the unit to the PLAY mode.
2. Install the tentelometer as shown in **Fig. 1-3-A**. Confirm the value is within 22~30gr/cm at this time.
3. Adjust when it does not satisfy the above items. Set the tension arm spring to "A" direction when the torque meter indicates more than 30gr/cm. **(Refer to Fig. 1-3-B)** Set the tension arm spring to "B" direction when the torque meter indicates less than 22gr/cm. **(Refer to Fig. 1-3-B)**

※ IN CASE OF USING A CASSETTE TYPE TORQUE METER.

1. After adjustment, confirm and adjust the tension post position **(Refer to item 1-2)** for the tension arm, install the cassette type torque meter **(JG100)** and set to the PLAY mode.
2. Confirm that the left hand side tension value of the torque meter is 40~60gr/cm for the standard mode tape.

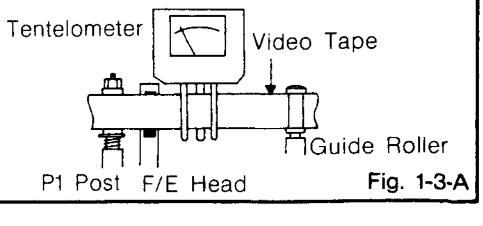

Tentelometer
Video Tape
Guide Roller
P1 Post
F/E Head

Fig. 1-3-A

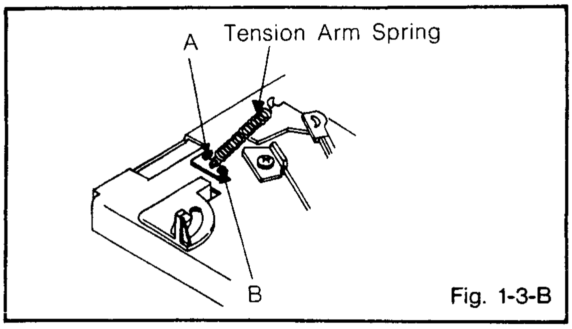


Fig. 1-3-B

1-4: CONFIRMATION OF FAST FORWARD TORQUE

1. Set torque gauge **(JG002G)** on take-up reel disk, and place unit in FAST FORWARD mode. **(Refer to Fig. 1-4)**
2. Confirm that torque is more than 800gr/cm.

NOTE
After setting the torque gauge on the reel disk, hold the gauge in place.
Push the FAST FORWARD button and the reel disk will begin to turn.

1-5: CONFIRMATION OF REWIND TORQUE

1. Operate within 4 or 5 seconds after the reel disk begins to turn.
2. Set torque gauge **(JG002G)** on supply reel disk, and place the unit in REWIND mode. **(Refer to Fig. 1-4)**
3. Confirm that torque is more than 800gr/cm.

NOTE
After setting the torque gauge on the reel disk, hold the gauge in place.
Push the REWIND button and the reel disk will begin to turn.

1-6: CONFIRMATION OF PLAYBACK TAKE-UP TORQUE

1. Set the torque gauge **(JG002F)** on the rewind reel disk, then check PB mode.
2. Make sure that the torque covers the range, 60~150gr/cm.

1-7: CONFIRMATION OF REEL BRAKE TORQUE

(Take-Up Reel Brake) **(Refer to Fig. 1-4)**

1. Set to STOP mode.
2. Set the torque gauge **(JG002G)** to the take-up reel and turn it counterclockwise.
3. Confirm that it is more than 200gr/cm at that time.

(Supply Reel Brake) **(Refer to Fig. 1-4)**

1. Set to STOP mode.
2. Set the torque gauge **(JG002G)** to the supply reel and turn it clockwise.
3. Confirm that it is more than 200gr/cm at that time.

NOTE
Separate the idler from the reel and confirm the brake torque.

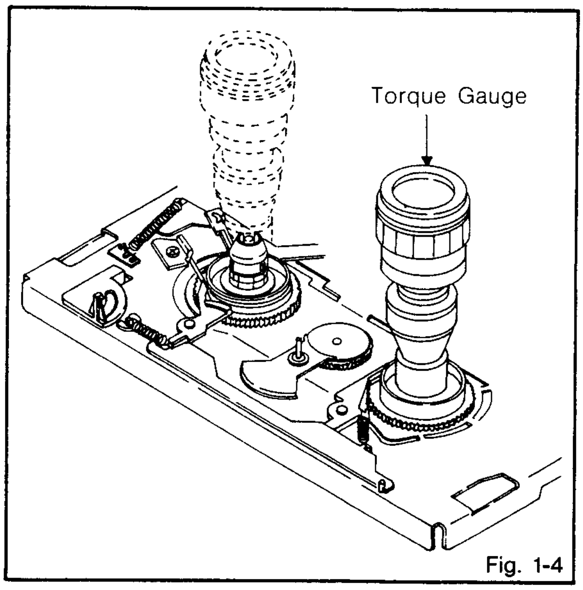


Fig. 1-4

NOTE
If the torque value checked is out of tolerance, replace the appropriate parts as follows.

Check Items	Replace Parts
1-4	Idler Ass'y or Reel Belt
1-5	Idler Ass'y or Reel Belt
1-6	Idler Ass'y or Reel Belt or Clutch Ass'y
1-7	Main Brake T Ass'y or Main Brake S Ass'y

2. TAPE RUNNING CONFIRMATION AND ADJUSTMENT

Tape running is adjusted precisely at the factory. Normally, it is not necessary to make adjustments. It is necessary to confirm and make adjustments when the parts of the tape running mechanism are replaced because of extensive usage or failure.

2-1: GUIDE ROLLER

1. Connect CH-1 on the oscilloscope to **TP4005 (PB Envelope)** and CH-2 to **TP2001 (SW Pulse)**.
2. Insert the VHS alignment tape **(JG001)** into the unit.
3. Carry out this adjustment in PLAY mode.
4. Trigger with SW pulse and observe the envelope. **(Refer to Fig. 2-1-A)**
5. Adjust the guide roller height while observing the envelope, and make the envelope flat. Adjust the envelope so that the flatness will not be affected even when the tracking control button is pressed. (Use the adjustment screwdriver **JG005**).
6. Press and hold the tracking control button and (at the point that the envelope waveform starts to reduce) adjust the envelope so that its A : B ratio is better than 3 : 2. **(Refer to Fig. 2-1-B)**
7. Adjust the PG shifter **(ELECTRICAL ADJUSTMENTS : ITEM 3-1)** in the PLAY mode.

NOTE
After adjustment, confirm and adjust A/C head tilt. **(Refer to item 2-2)**

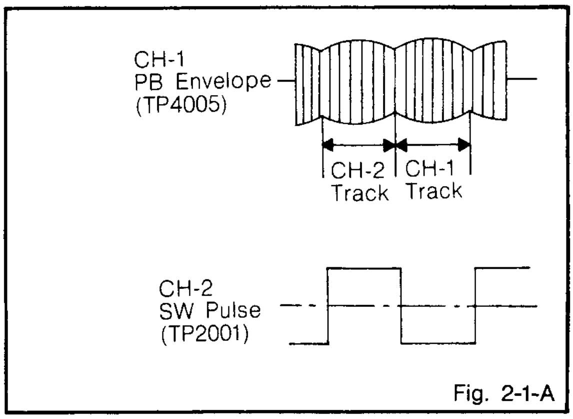


Fig. 2-1-A

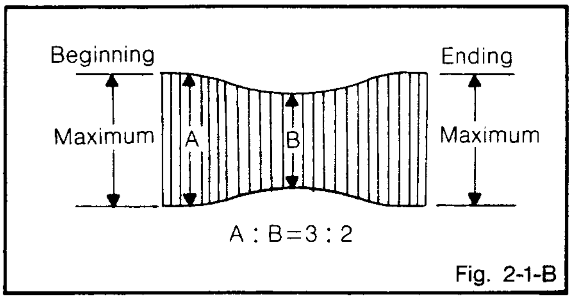


Fig. 2-1-B

2-2: CONFIRMATION AND ADJUSTMENT OF A/C HEAD TILT

When the tape is running abnormally, perform the following adjustments.

1. Insert a new tape and play back.
2. Confirm that there is no crease on the tape between the guide post and guide roller(R) and the tape is running smoothly. (It is absolutely impossible to get satisfactory sound if the tape is distorted between the A/C head and guide post.)
3. If the tape still does not run smoothly, turn the screw ① and adjust the tilt of the A/C head. Do not move the guide post. **(Refer to Fig. 2-2)**

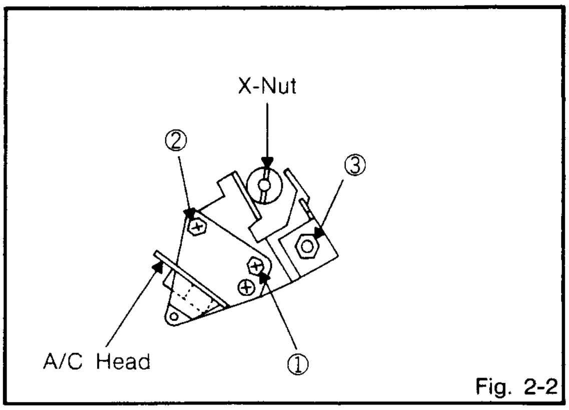


Fig. 2-2

2-3: ADJUSTMENT OF A/C HEAD HEIGHT AND AZIMUTH

1. Play back a VHS alignment tape **(JG001E)** and observe the waveform at the audio output terminal.
2. Turn the screw ② slowly to change the height of the A/C head. Adjust the height so that the audio output becomes maximum. **(Refer to Fig. 2-2)**
3. Adjust the nut ③, **(Refer to Fig. 2-2)** until the height of the A/C head reaches the position against the tape as shown in **Fig. 2-3**.

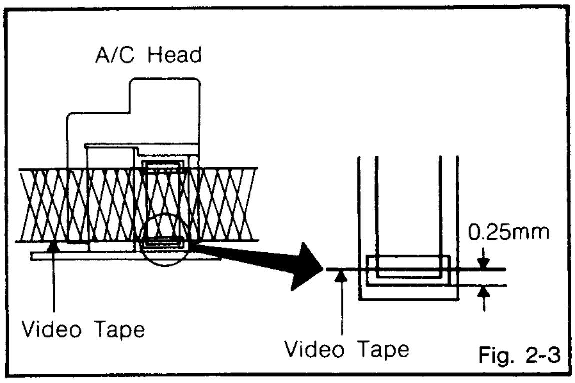


Fig. 2-3

2-4: TAPE RUNNING ADJUSTMENT

1. Adjust the height of reel disk. **(Refer to item 1-1)**
2. Confirm and adjust tension post position. **(Refer to item 1-2)**
3. Adjust the guide roller. **(Refer to item 2-1)**
4. Adjust the A/C head tilt. **(Refer to item 2-2)**
5. Adjust the A/C head height and azimuth. **(Refer to item 2-3)**
6. Connect CH-1 on the oscilloscope to **TP4005** and CH-2 to **TP2001**. Insert the VHS alignment tape **(JG001E)** into the unit. Set the tracking control to the center position. Turn the X-nut using the X-nut adjustment screwdriver **(JG021)** **(Refer to Fig. 2-2)**. Adjust the X-nut for the envelope to be maximum. **(Refer to Fig. 2-1-A)**

ELECTRICAL ADJUSTMENTS

(VCR SECTION)

3. ADJUSTMENT PROCEDURE

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION
Inferior silicon grease can damage IC's and transistors. When replacing IC's or transistors, use only specified silicon grease (YG6260M).
Remove all old silicon before applying new silicon.

3-1: PG SHIFTER

CONDITIONS
MODE-PLAYBACK
Input Signal-Alignment Tape **(JG001E)**

INSTRUCTIONS

1. Connect CH-1 on the oscilloscope to **TP2001** and CH-2 to **TP4201**.
2. Adjust **VR2001** so that the waveform of the oscilloscope measures 6.5±0.5(H) at both leading and trailing edges.
(Refer to Fig. 3-1-A, B)

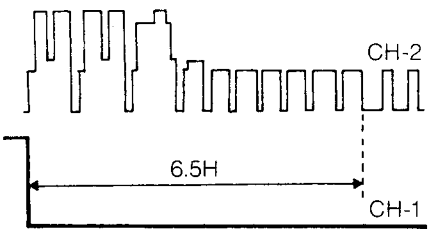


Fig. 3-1-A

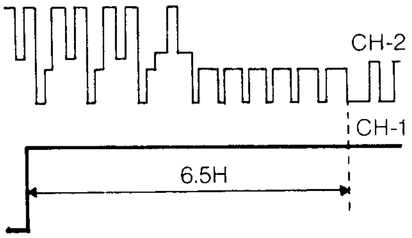


Fig. 3-1-B

3-2: PB Y LEVEL

CONDITIONS
MODE-PLAYBACK
Input Signal-Alignment Tape **(JG001F)**

NOTE
VIDEO OUT (CD8008) of the unit should be terminated with 75 ohm load.

INSTRUCTIONS

1. Connect the oscilloscope to **TP4201**.
2. Adjust **VR4001** so that the signal becomes 1.0±0.05Vp-p. **(Refer to Fig. 3-2)**

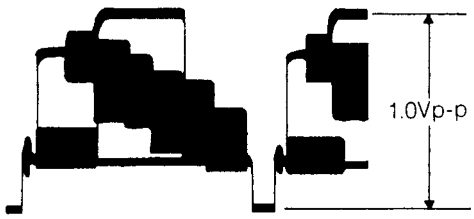


Fig. 3-2

3-3: E-E LEVEL

CONDITIONS
MODE-STOP
Input Signal-PAL Color Bar (VIDEO IN JACK)

NOTE
VIDEO OUT (CD8008) of the unit should be terminated with 75 ohm load.

INSTRUCTIONS

1. Connect the color bar generator to **VIDEO IN JACK**.
2. Connect the oscilloscope to **TP4001**.
3. Adjust **VR4004** so that the waveform measures 0.5±0.025Vp-p. **(Refer to Fig. 3-3)**

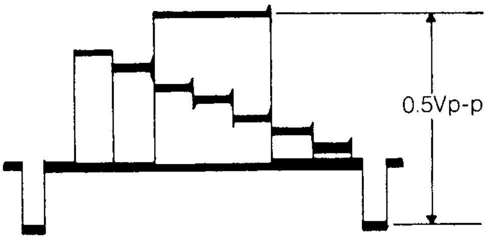


Fig. 3-3

3-4: CARRIER AND DEVIATION

(CARRIER)

CONDITIONS

MODE-STOP

Input Signal-No Signal

INSTRUCTIONS

1. Insert the pinplug into the VIDEO IN JACK so that the video in jack is no signal.
2. Connect the frequency to **TP4004**.
3. Adjust **VR4003** so that the carrier frequency 3.8MHz±20KHz.

(DEVIATION)

CONDITIONS

MODE-Self (RECORD and PLAYBACK)

Input Signal-PAL Color Bar (VIDEO IN JACK)

INSTRUCTIONS

1. VIDEO OUT (CD8008) of the unit should be terminated with 75 ohm load.
2. Input the color bar (with the white 100% level) to the VIDEO IN JACK.
3. Connect the oscilloscope to **TP4201**.
4. Record the color bar as indicated above and then play back the recorded part.
5. Check that the playback output level is 1.0±0.05Vp-p. **(Refer to Fig. 3-4)**
6. When it is out of the specification, adjust **VR4005** and repeat (4), (5) and (6).

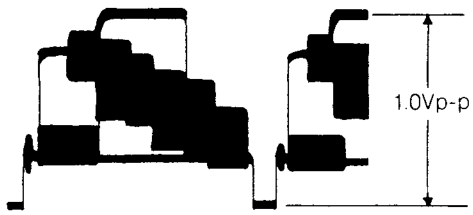


Fig. 3-4

3-5: AUDIO BIAS

CONDITIONS

MODE-RECORD

Input Signal-Audio Signal : No Signal

INSTRUCTIONS

Connect the AC voltmeter as shown, then adjust the voltage to 3.3±0.1mVrms with **VR5002**. **(Refer to Fig. 3-5)**

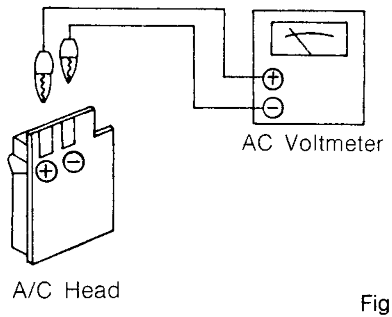


Fig. 3-5

3-6: PB AUDIO LEVEL

CONDITIONS

MODE-Self (RECORD and PLAYBACK) (SP MODE)

Input Signal-Audio Signal : 1KHz 300mVrms (AUDIO IN JACK)

Video Signal : PAL Color Bar (VIDEO IN JACK)

NOTE

AUDIO OUT (CD8008) of the unit should be terminated with 47K ohm load.

INSTRUCTIONS

1. Connect the color bar generator to **VIDEO IN JACK**.
2. Connect the audio generator to **AUDIO IN JACK**.
3. Connect the AC voltmeter to **AUDIO OUT (CD8008)**.
4. After the input of audio signal and video signal, proceed with the recording.
5. Play back the recorded section and adjust **VR5001** so that the AC voltmeter value is 390±10mVrms.

3-7: CLOCK

NOTE

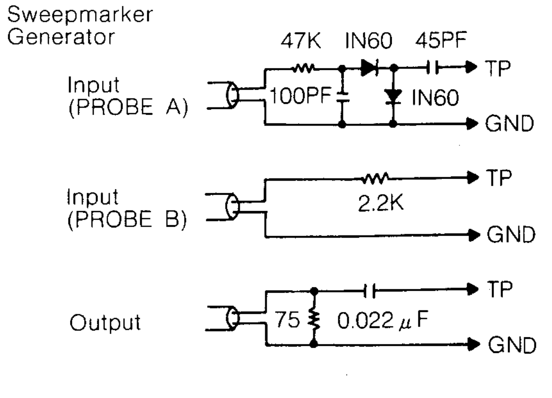
Quartz timer should be supplied with power for at least 30 minutes before the adjustment.

INSTRUCTIONS

1. Put the detectable area of quartz timer close to **X1001**.
2. Adjust **TC1001** so that the difference is within 0.15 sec.

NOTE

For adjusting of VCO and AFT, connect input and output terminals of the sweepmarker generator to the circuit as shown below, then adjust it.

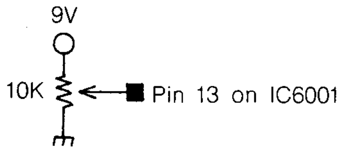


3-8: VCO

CONDITION
MODE-STOP

INSTRUCTIONS

1. Connect the output of sweepmarker generator to **IC6001 side of R6009**.
2. Connect the input of sweepmarker generator to **pin 17 on IC6001**. (PROBE A)
3. Connect a 10K ohm variable resistor to IF AGC terminal **(pin 13 on IC6001)**, 9V line and ground, then adjust to make the waveform of the oscilloscope readable.



4. Adjust **L6010** until the waveform marker (39.5MHz) becomes as shown in **Fig. 3-6**.

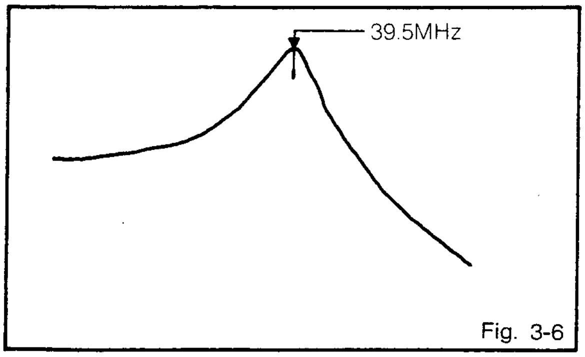


Fig. 3-6

3-9: AFT

CONDITIONS
MODE-STOP
BAND-UHF POSITION

INSTRUCTIONS

1. Connect the output of sweepmarker generator to **IC6001 side of R6009**.
2. Connect the input of sweepmarker generator to **TP6010**. (PROBE B)
3. Adjust **L6011** until the waveform marker (39.5MHz) becomes as shown in **Fig. 3-7**.
4. Disconnect the sweepmarker generator and the oscilloscope.
5. Connect the generator (39.5MHz) to the **TP6009** through 2.2K ohm and connect the DC voltmeter to **TP6010**.
6. Adjust **L6011** so that voltage at AFT switch ON is as much as one at AFT switch OFF.

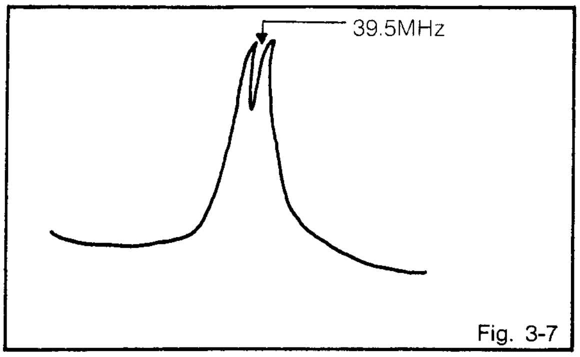


Fig. 3-7

3-10: RF AGC

CONDITIONS
MODE-STOP
AFT SW : ON MODE
Input Signal : Monochrome Pattern (VIDEO IN JACK)

INSTRUCTIONS

1. Connect the pattern generator to **VIDEO IN JACK**.
2. Connect the DC voltmeter to **TP6008**.
3. Set input field strength to 80dBμ.
4. Adjust **VR6001** so that the voltage is equal to 3.5±0.1V.

3-11: COLOR LEVEL

CONDITIONS
MODE-STOP
AFT SW : ON MODE
Input Signal : PAL Color Bar (VIDEO IN JACK)

NOTE
VIDEO OUT (CD8008) of the unit should be terminated with 75 ohm load.

INSTRUCTIONS

1. Connect the color bar generator to **VIDEO IN JACK**.
2. Connect the oscilloscope to **TP4201**.
3. Adjust **VR6002** so that the magenta level is 45±5% when Y-level is 100%. **(Refer to Fig. 3-8)**

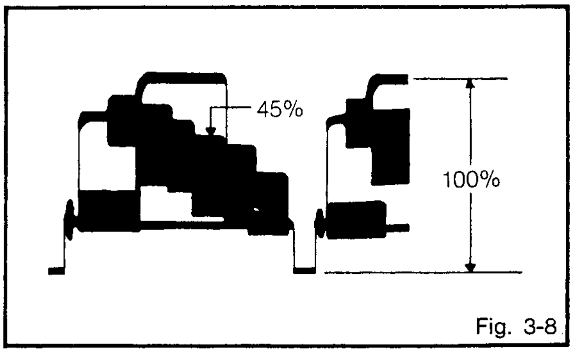


Fig. 3-8

(TV SECTION)

4. BASIC ADJUSTMENTS

4-1: CUT OFF

1. Receive the Color Bar Pattern.
2. Set the AFT switch ON position.
3. Using the remote control, set bright and contrast to minimum position.
4. Connect the oscilloscope to **TP24**.
5. Adjust the screen control until voltage is 120VDC. **(Refer to Fig. 4-1)**

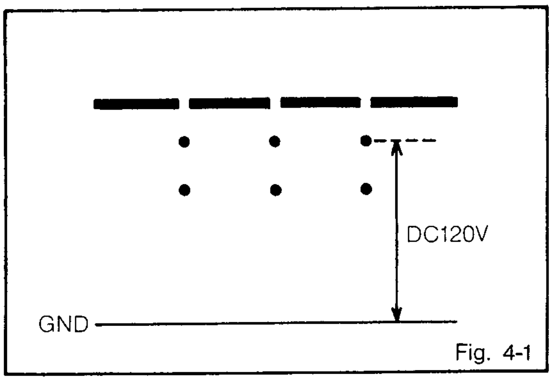


Fig. 4-1

4-2: FOCUS

1. Receive the broadcasting signal.
2. Adjust the focus control until picture is distinct.

4-3: VERTICAL SIZE

1. Receive the Crosshatch Pattern from the color bar generator.
2. Adjust the bright and contrast controls until the crosshatch pattern is distinct.
3. Adjust **VR401** until the center of crosshatch is square.
4. Receive broadcasting signal, then confirm picture is normal.

4-4: VERTICAL POSITION

1. Receive the Color Bar Pattern.
2. Adjust **VR402** until horizontal line of the color bar comes to approximate center of the CRT.

4-5: HORIZONTAL POSITION

1. Receive the Color Bar Pattern.
2. Adjust **VR403** until the color width of both of screen edges are equal.
3. Receive broadcasting signal, then confirm picture is normal.

4-6: SUB BRIGHT

NOTE
Proceed this adjustment in 20 minutes after the Power ON.

1. Receive the Monochrome Pattern.
2. Using the remote control, set bright and contrast to normal position.
3. Adjust **VR171** until 0% of gray scale will be dim completely.

4-7: SUB COLOR

1. Receive the color bar pattern.
2. Set the AFT switch ON position.
3. Connect the oscilloscope to **TP22**.
4. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to four scales on the screen of the oscilloscope.
5. Adjust **VR170** until the red color level is set to the third scale (75%) from white 0%. **(Refer to Fig. 4-2)**

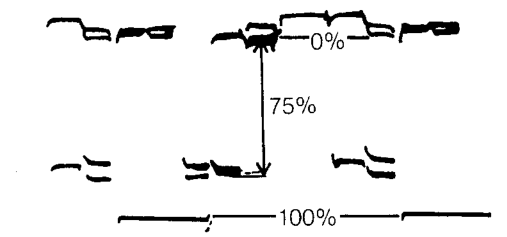


Fig. 4-2

4-8: CONSTANT VOLTAGE

1. Receive the Monochrome Pattern.
2. Set the AFT switch ON position.
3. Connect the digital voltmeter to **TP501**.
4. Adjust **VR501** until the voltage is 103V.

5. PURITY AND CONVERGENCE ADJUSTMENT

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

ELECTRICAL ADJUSTMENTS

5-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position.
   (Refer to Fig. 5-1)
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

5-2: PURITY

NOTE
Adjust after performing adjustments in section 5-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at ends are equally wide.
3. Move the deflection yoke backward (To neck side) slowly, and stop it at the position when the whole s screen is green.
4. Confirm red and blue colors.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

5-3: STATIC CONVERGENCE

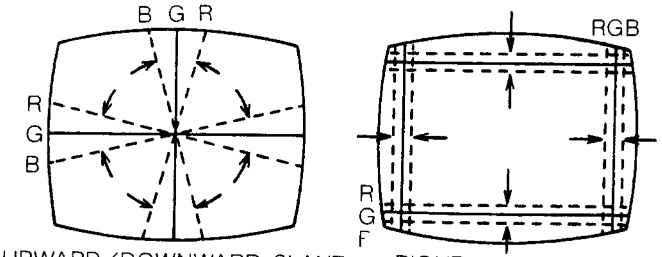
NOTE
Adjust after performing adjustments in section 5-2.

1. Receive the crosshatch pattern from color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

5-4: DYNAMIC CONVERGENCE

NOTE
Adjust after performing adjustments in section 5-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left.
   (Refer to Fig. 5-2-A)
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke.
   (Refer to Fig. 5-2-B)



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

Fig. 5-2-A

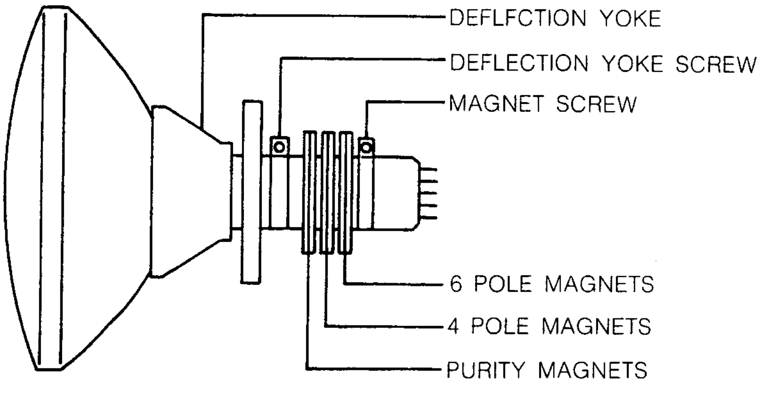
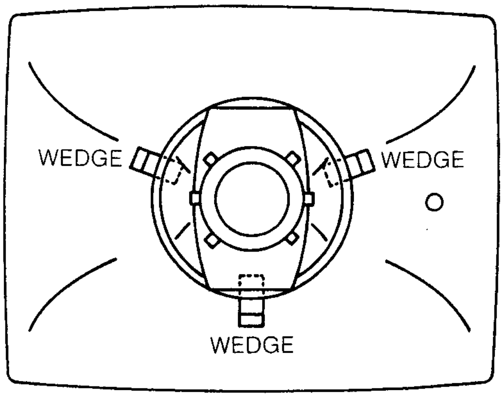


Fig. 5-1



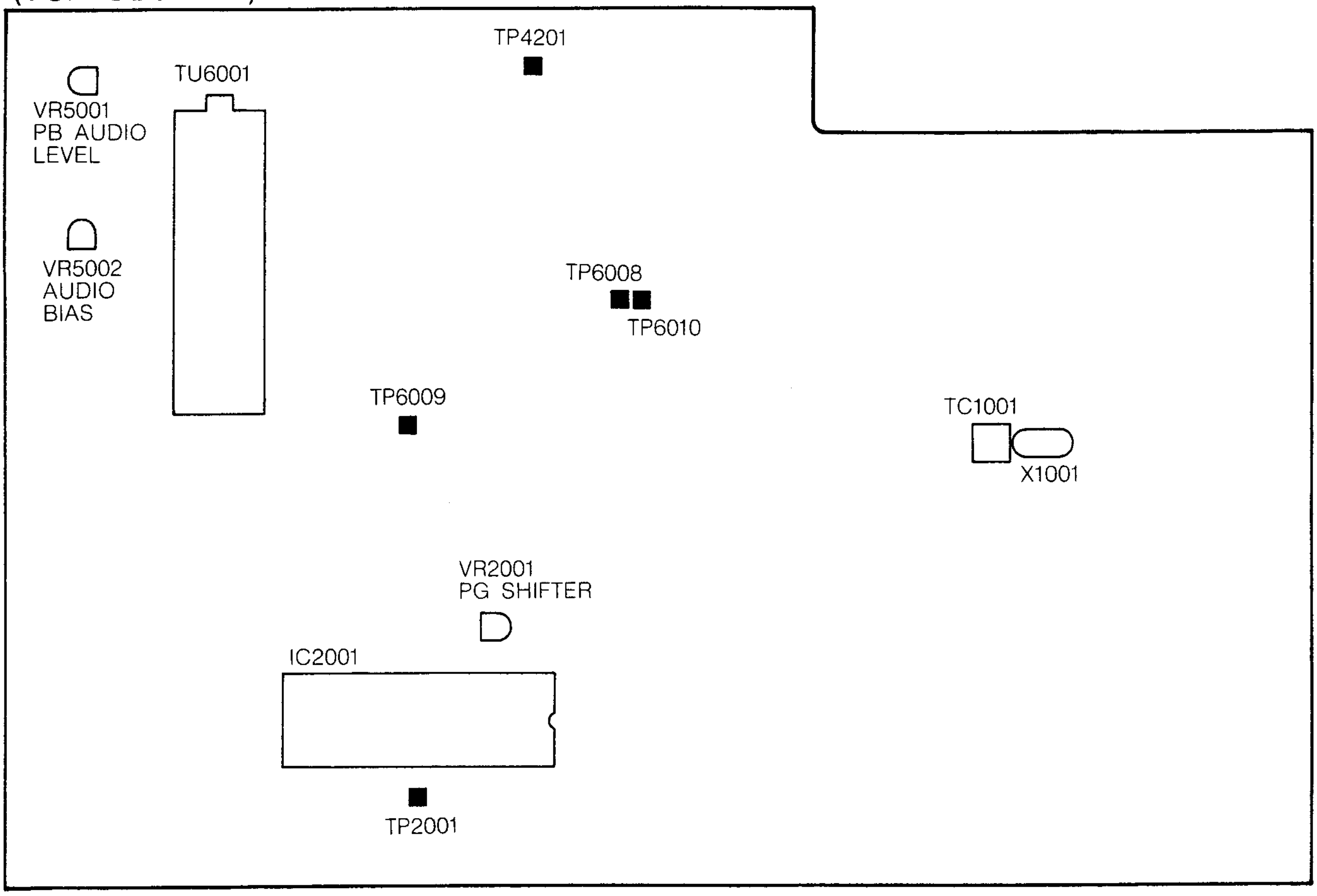
WEDGE POSITION

Fig. 5-2-B

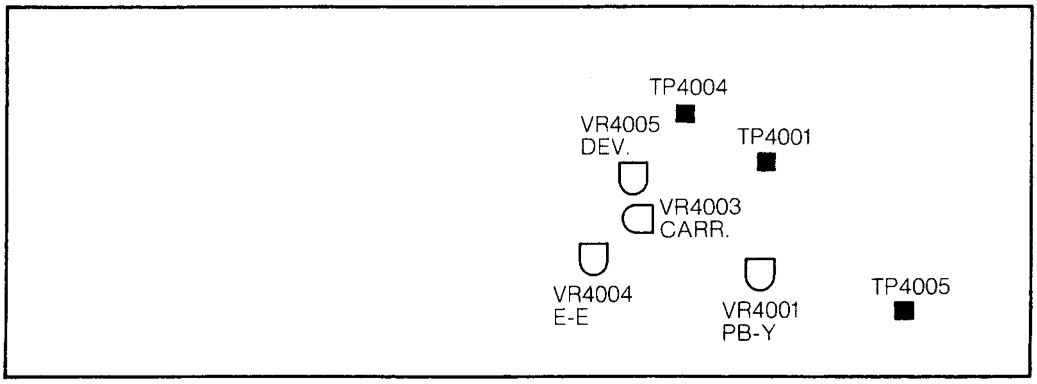
MODEL: VX-T1410K

MAJOR COMPONENTS LOCATION GUIDE

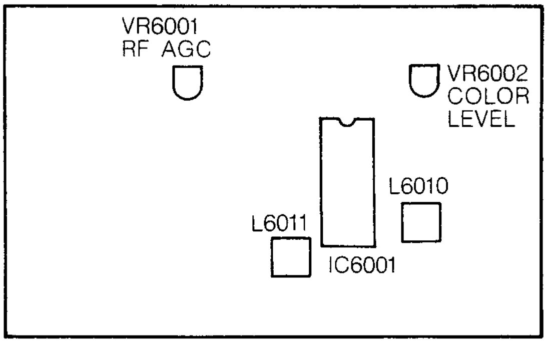
(VCR SECTION)


TP4201
VR5001
PB AUDIO
LEVEL
TU6001
VR5002
AUDIO
BIAS
TP6008
TP6010
TP6009
TC1001
X1001
VR2001
PG SHIFTER
IC2001
TP2001

MAIN


TP4004
VR4005
DEV.
TP4001
VR4003
CARR.
VR4004
E-E
VR4001
PB-Y
TP4005

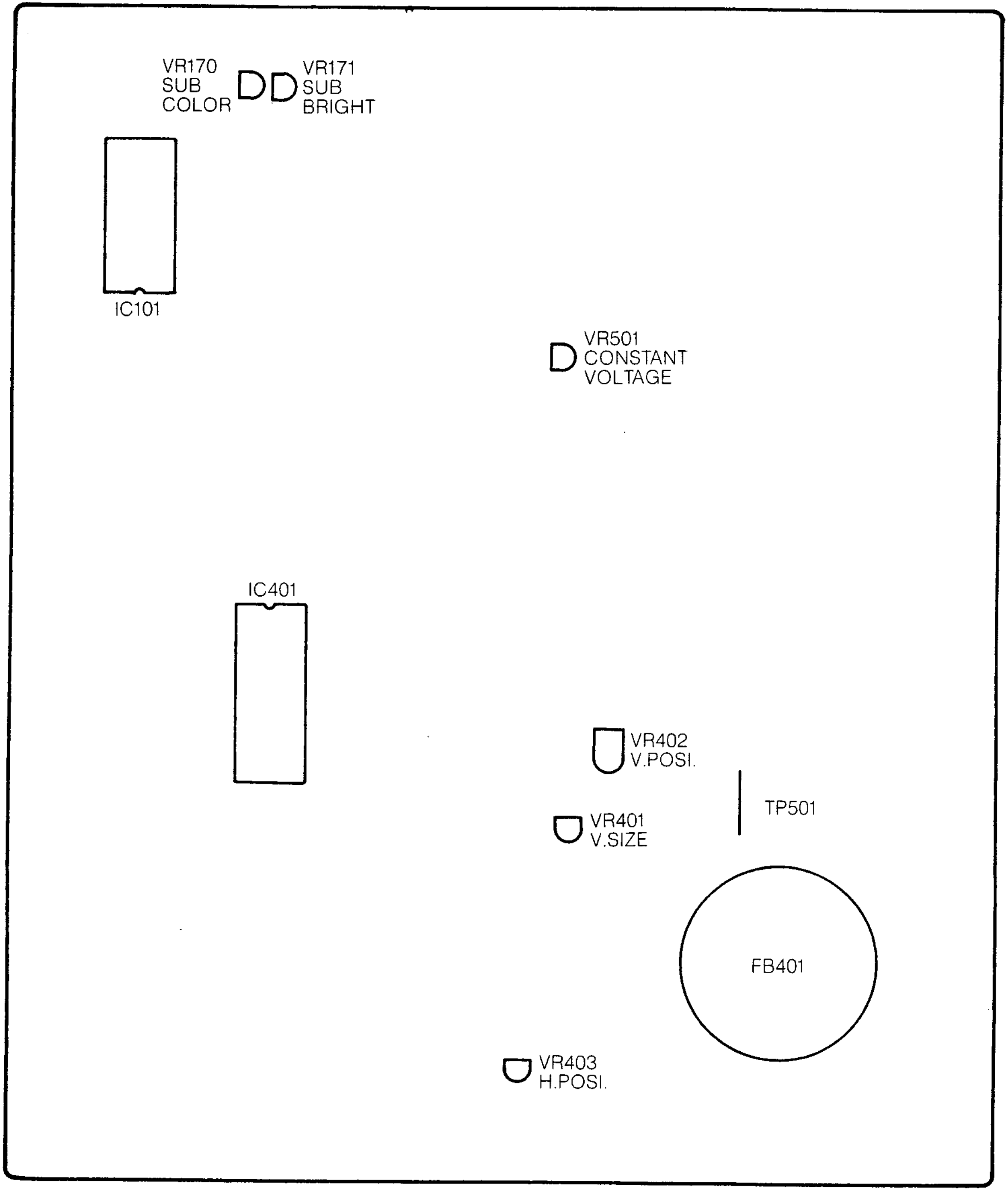
Y/C


VR6001
RF AGC
VR6002
COLOR
LEVEL
L6010
L6011
IC6001

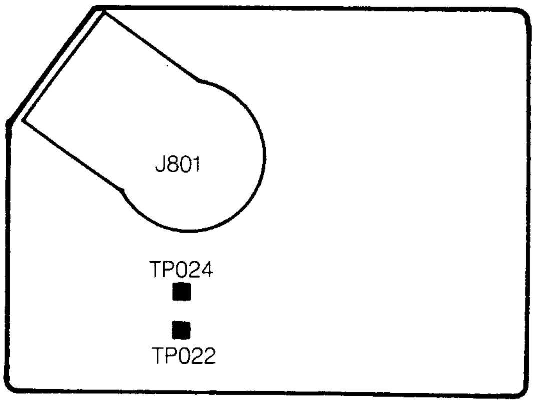
IF

MAJOR COMPONENTS LOCATION GUIDE

(TV SECTION)


VR170
SUB
COLOR
VR171
SUB
BRIGHT
IC101
VR501
CONSTANT
VOLTAGE
IC401
VR402
V.POSI.
TP501
VR401
V.SIZE
FB401
VR403
H.POSI.

MAIN


J801
TP024
TP022

CRT

ELECTRICAL ADJUSTMENTS

(VCR SECTION)

3. ADJUSTMENT PROCEDURE

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION
Inferior silicon grease can damage IC's and transistors. When replacing IC's or transistors, use only specified silicon grease (YG6260M).
Remove all old silicon before applying new silicon.

3-1: PG SHIFTER

CONDITIONS
MODE-PLAYBACK
Input Signal-Alignment Tape **(JG001E)**

INSTRUCTIONS

1. Connect CH-1 on the oscilloscope to **TP2001** and CH-2 to **pin 19 of J4501**.
2. Adjust **VR2001** so that the waveform of the oscilloscope measures 6.5±0.5(H) at both leading and trailing edges. **(Refer to Fig. 3-1-A, B)**

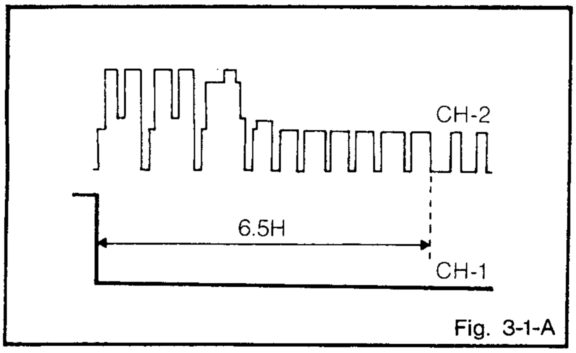


Fig. 3-1-A

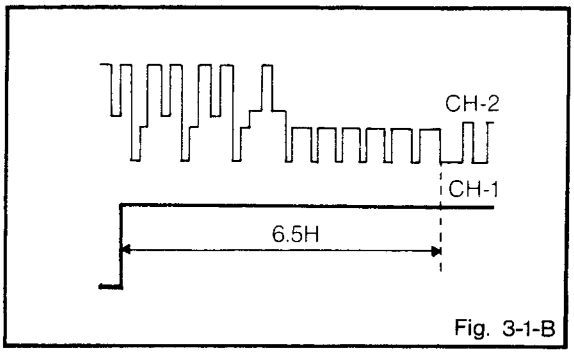


Fig. 3-1-B

3-2: PB Y LEVEL

CONDITIONS
MODE-PLAYBACK
Input Signal-Alignment Tape **(JG001F)**

NOTE
VIDEO OUT (CD8008) of the unit should be terminated with 75 ohm load.

INSTRUCTIONS

1. Connect the oscilloscope to **pin 19 of J4501**.
2. Adjust **VR4001** so that the signal becomes 2.0±0.05Vp-p. **(Refer to Fig. 3-2)**

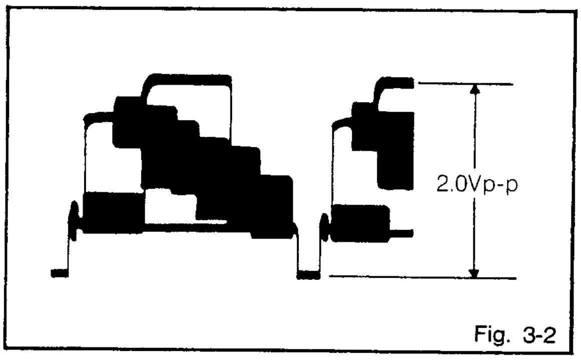


Fig. 3-2

3-3: E-E LEVEL

CONDITIONS
MODE-STOP
Input Signal-PAL Color Bar

NOTE
VIDEO OUT (CD8008) of the unit should be terminated with 75 ohm load.

INSTRUCTIONS

1. Connect the color bar generator to **pin 20 of J4501**.
2. Connect the oscilloscope to **TP4001**.
3. Adjust **VR4004** so that the waveform measures 0.5±0.025Vp-p. **(Refer to Fig. 3-3)**

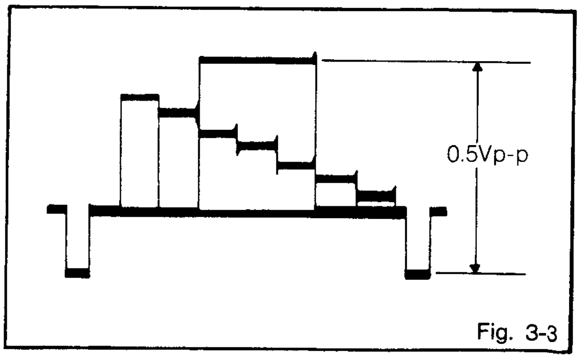


Fig. 3-3

ELECTRICAL ADJUSTMENTS

3-4: CARRIER AND DEVIATION

(CARRIER)

CONDITIONS
MODE-STOP
Input Signal-No Signal

INSTRUCTIONS

1. Connect the frequency to **TP4004**.
2. Adjust **VR4003** so that the carrier frequency 3.8MHz ± 20KHz.

(DEVIATION)

CONDITIONS
MODE-Self (RECORD and PLAYBACK)
Input Signal-PAL Color Bar

INSTRUCTIONS

1. VIDEO OUT (CD8008) of the unit should be terminated with 75 ohm load.
2. Input the color bar (with the white 100% level) to the **pin 20 of J4501.**
3. Connect the oscilloscope to **TP4201**.
4. Record the color bar as indicated above and then play back the recorded part.
5. Check that the playback output level is 1.0 ± 0.05Vp-p. **(Refer to Fig. 3-4)**
6. When it is out of the specification, adjust **VR4005** and repeat (4), (5) and (6).

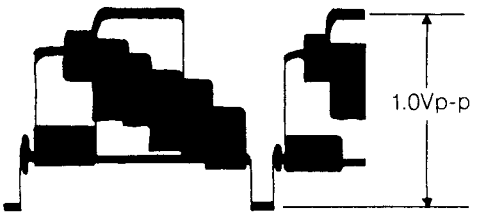


Fig. 3-4

3-5: AUDIO BIAS

CONDITIONS
MODE-RECORD
Input Signal-Audio Signal : No Signal

INSTRUCTION

Connect the AC voltmeter as shown, then adjust the voltage to 3.3 ± 0.1mVrms with **VR5002. (Refer to Fig. 3-5)**

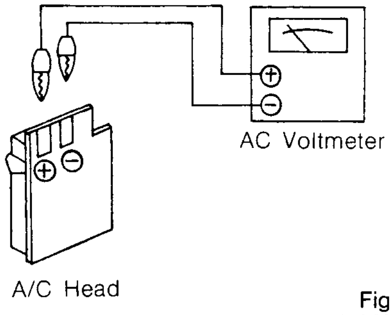


Fig. 3-5

3-6: PB AUDIO LEVEL

CONDITIONS
MODE-Self (RECORD and PLAYBACK) (SP MODE)
Input Signal-Audio Signal : 1KHz 500mVrms
Video Signal : PAL Color Bar

NOTE

AUDIO OUT (CD8008) of the unit should be terminated with 47K ohm load.

INSTRUCTIONS

1. Connect the color bar generator to **pin 20 of J4501**.
2. Connect the audio generator to **pin 2 of J4501**.
3. Connect the AC voltmeter to **AUDIO OUT (CD8008)**.
4. After the input of audio signal and video signal, proceed with the recording.
5. Play back the recorded section and adjust **VR5001** so that the AC voltmeter value is 390 ± 10mVrms.

3-7: CLOCK

NOTE

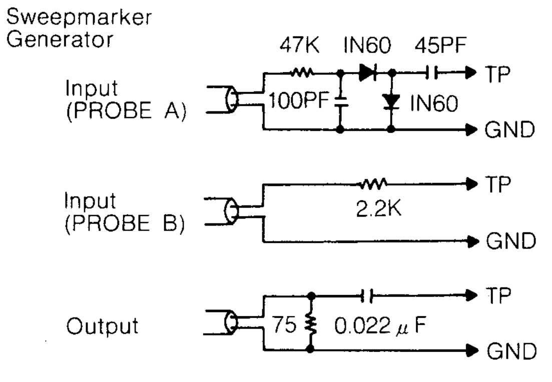
Quartz timer should be supplied with power for at least 30 minutes before the adjustment.

INSTRUCTIONS

1. Put the detectable area of quartz timer close to **X1001**.
2. Adjust **TC1001** so that the difference is within 0.15 sec.

NOTE

For adjusting of VCO, TRAP and AFT, connect input and output terminals of the sweepmarker generator to the circuit as shown below, then adjust it.



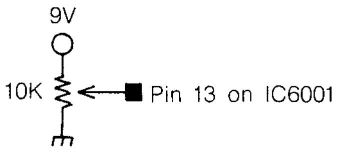
ELECTRICAL ADJUSTMENTS

3-8: VCO

CONDITION
MODE-STOP

INSTRUCTIONS

1. Connect the output of sweepmarker generator to **IC6001 side of R6009**.
2. Connect the input of sweepmarker generator to **pin 17 on IC6001**. (PROBE A)
3. Connect a 10K ohm variable resistor to IF AGC terminal **(pin 13 on IC6001)**, 9V line and ground, then adjust to make the waveform of the oscilloscope readable.



4. Adjust **L6010** until the waveform marker (38.9MHz) becomes as shown in **Fig. 3-6**.

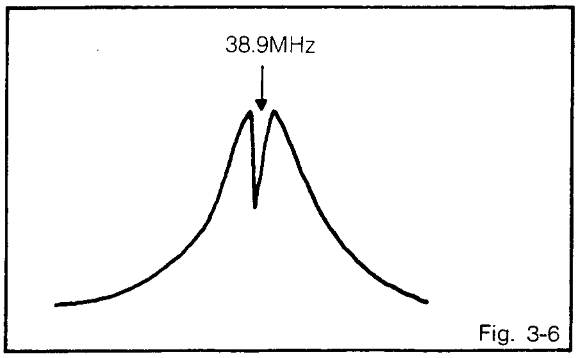


Fig. 3-6

3-9: TRAP

CONDITION
MODE-TUNER MODE

INSTRUCTIONS

1. Connect the **pin 11 of CP6001** to the output of the sweepmarker generator.
2. Connect tke saw filter(CF6001) side of the condenser(C6025), to the oscilloscope. (PROBE A)
3. Adjust **L6014** until the marker of 32.4MHz will be same as shown in **Fig. 3-7**.

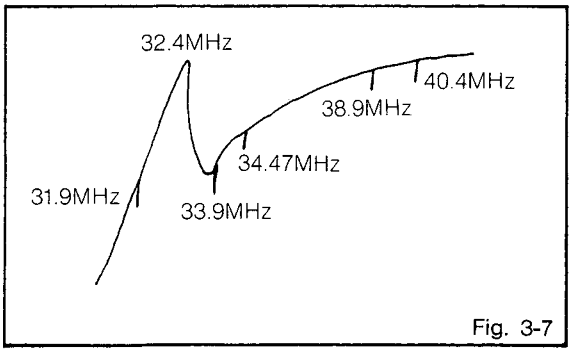


Fig. 3-7

3-10: AFT

CONDITIONS
MODE-STOP
BAND-UHF POSITION

INSTRUCTIONS

1. Connect the output of sweepmarker generator to **IC6001 side of R6009**.
2. Connect the input of sweepmarker generator to **TP6010**. (PROBE B)
3. Adjust **L6011** until the waveform marker (38.9MHz) becomes as shown in **Fig. 3-8**.
4. Disconnect the sweepmarker generator and the oscilloscope.
5. Connect the generator (38.9MHz) to the **TP6009** through 2.2K ohm and connect the DC voltmeter to **TP6010**.
6. Adjust **L6011** so that voltage at AFT switch ON is as much as one at AFT switch OFF.

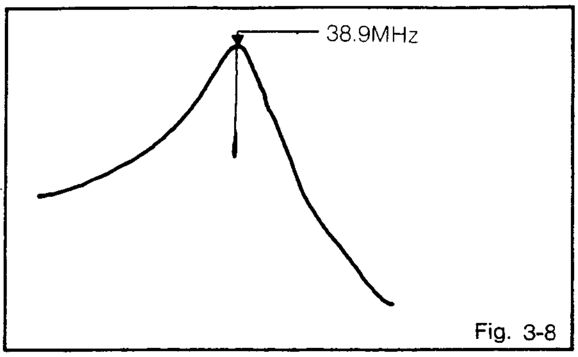


Fig. 3-8

3-11: RF AGC

CONDITIONS
MODE-STOP
AFT SW : ON MODE
Input Signal : Monochrome Pattern

INSTRUCTIONS

1. Connect the pattern generator to **pin 20 of J4501**.
2. Connect the DC voltmeter to **TP6008**.
3. Set input field strength to 80dBμ.
4. Adjust **VR6001** so that the voltage is equal to 3.5±0.1V.

3-12: COLOR LEVEL

CONDITIONS
MODE-STOP
AFT SW : ON MODE
Input Signal : PAL Color Bar

NOTE

VIDEO OUT (CD8008) of the unit should be terminated with 75 ohm load.

INSTRUCTIONS

1. Connect the color bar generator to **pin 20 of J4501**.
2. Connect the oscilloscope to **pin 19 of J4501**.
3. Adjust **VR6002** so that the magenta level is 45±5% when Y-level is 100%. **(Refer to Fig. 3-9)**

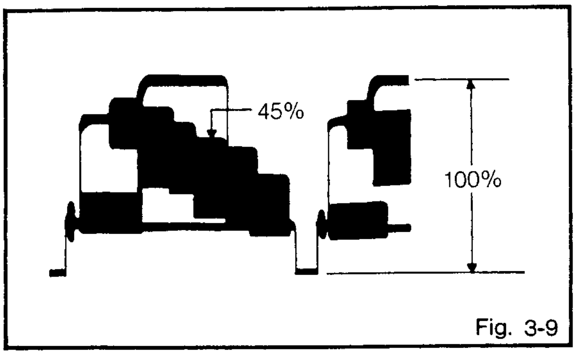
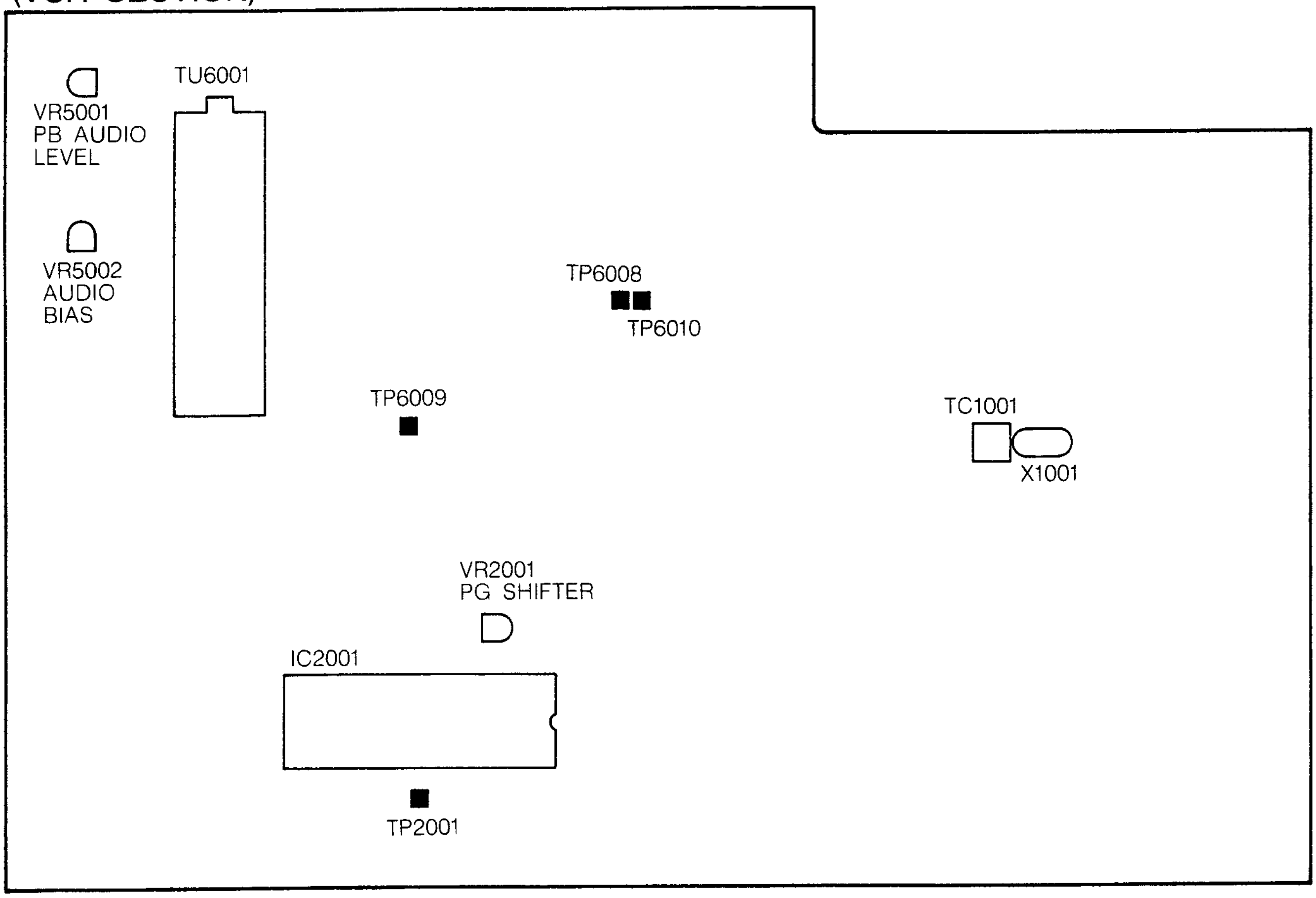


Fig. 3-9

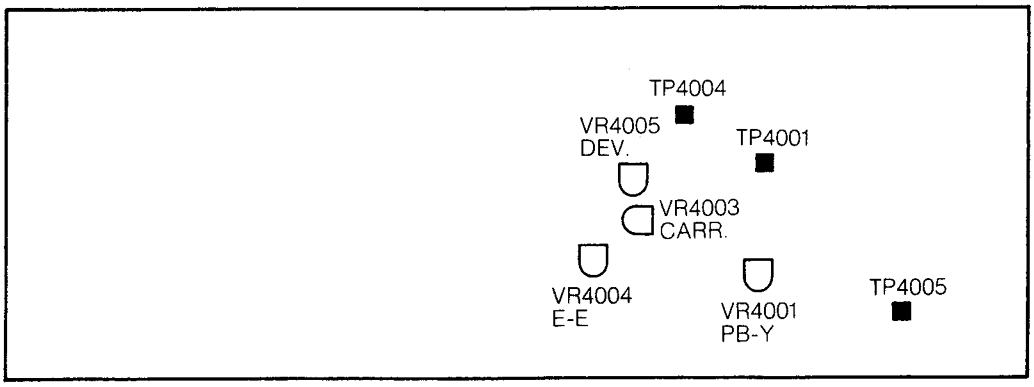
MODEL: VX-T1400AE

MAJOR COMPONENTS LOCATION GUIDE

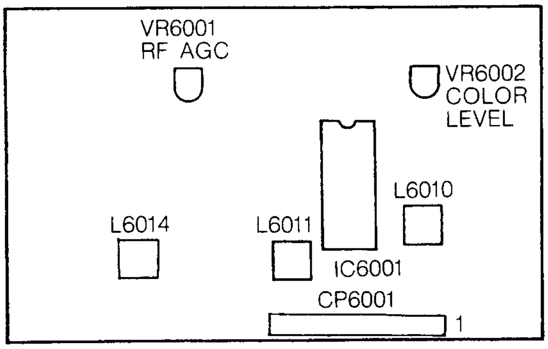
(VCR SECTION)


VR5001
PB AUDIO
LEVEL
TU6001
VR5002
AUDIO
BIAS
TP6008
TP6010
TP6009
TC1001
X1001
VR2001
PG SHIFTER
IC2001
TP2001

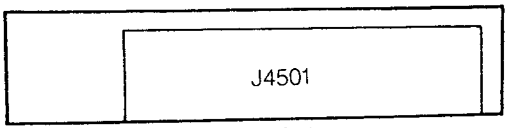
MAIN


TP4004
VR4005
DEV.
TP4001
VR4003
CARR.
VR4004
E-E
VR4001
PB-Y
TP4005

Y/C


VR6001
RF AGC
VR6002
COLOR
LEVEL
L6010
L6014
L6011
IC6001
CP6001
1

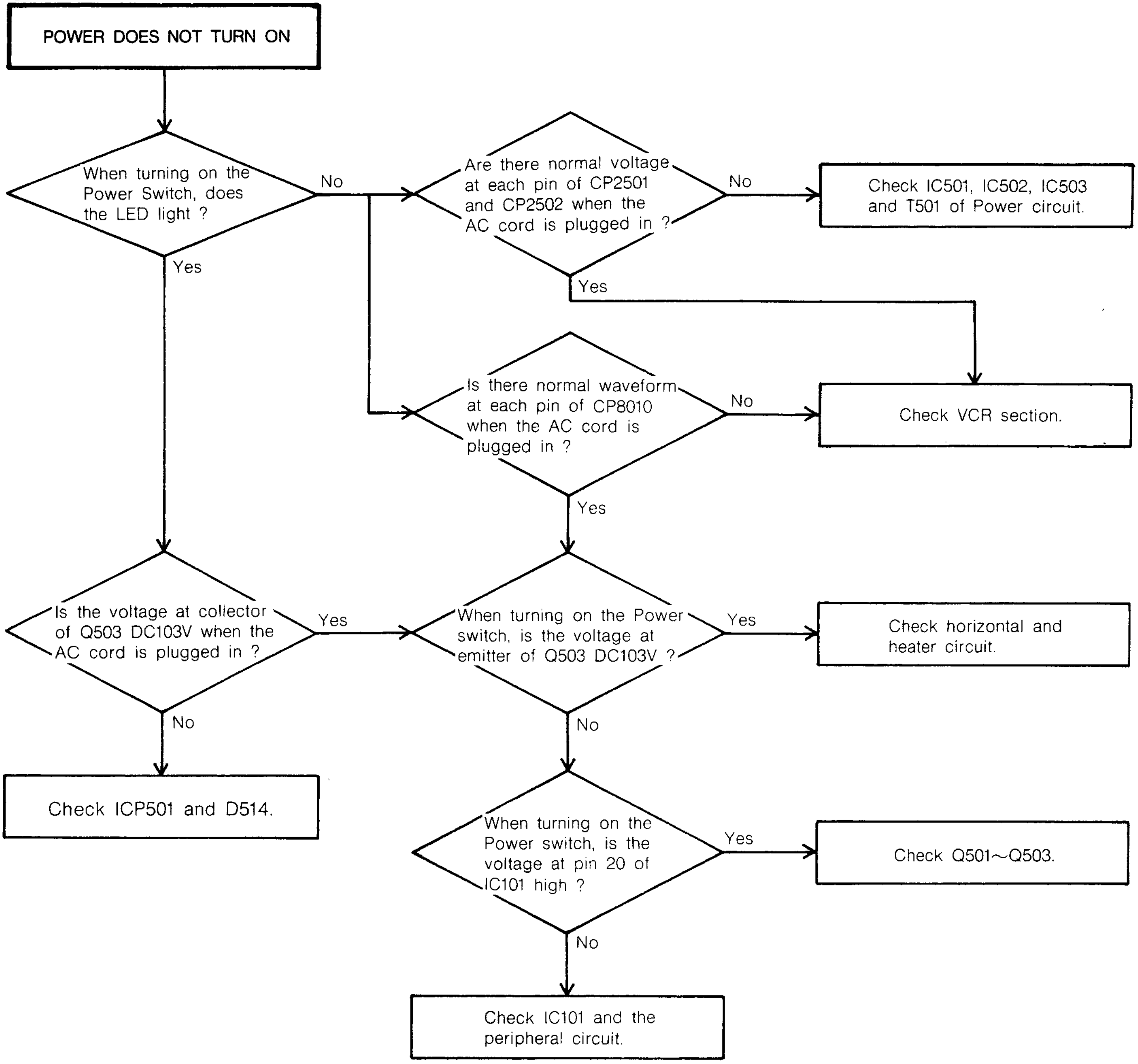
IF



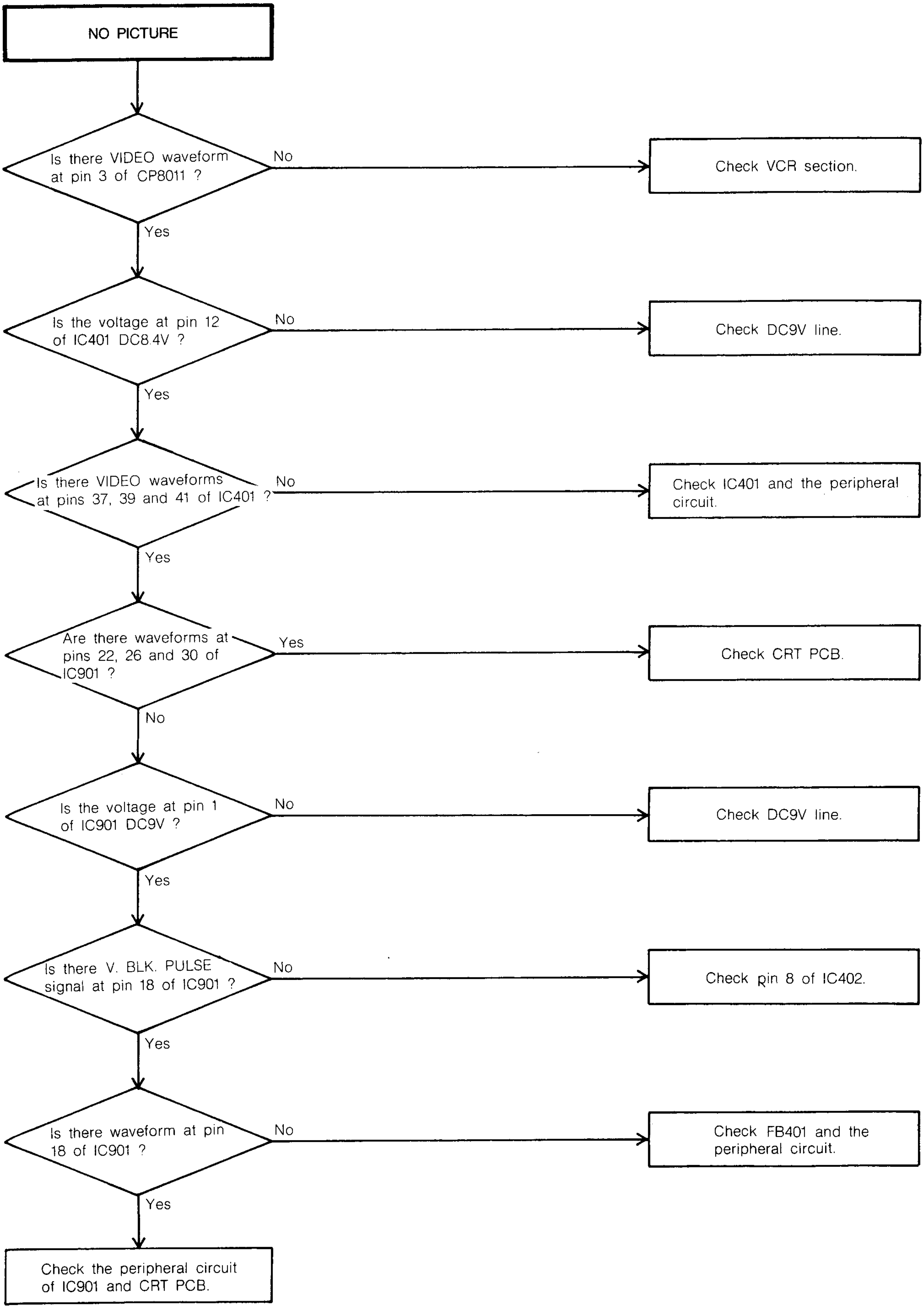
21 PIN JACK

TROUBLESHOOTING GUIDE

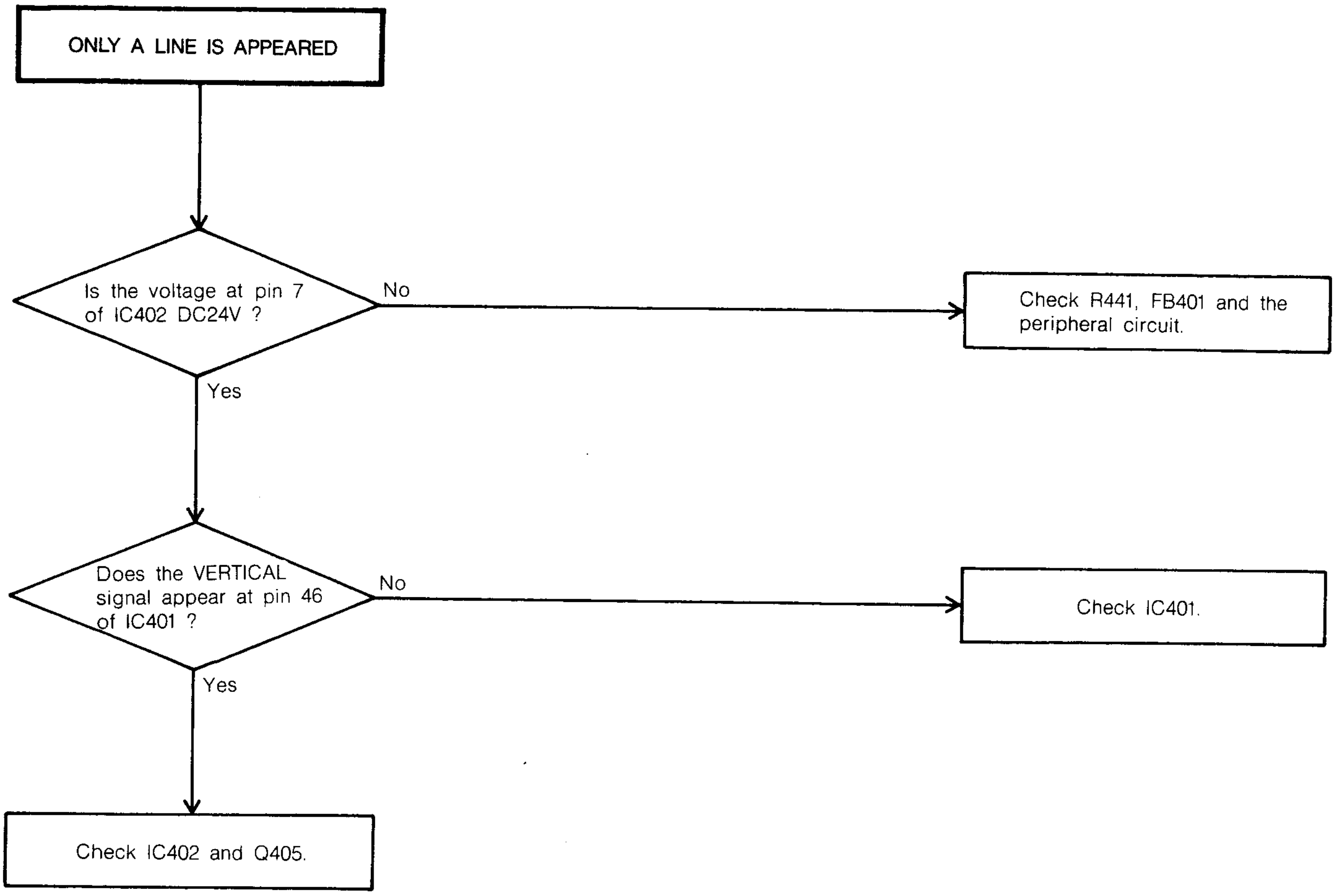
(TV SECTION)


POWER DOES NOT TURN ON
When turning on the Power Switch, does the LED light ?
No
Are there normal voltage at each pin of CP2501 and CP2502 when the AC cord is plugged in ?
No
Check IC501, IC502, IC503 and T501 of Power circuit.
Yes
Is there normal waveform at each pin of CP8010 when the AC cord is plugged in ?
No
Check VCR section.
Yes
Yes
Is the voltage at collector of Q503 DC103V when the AC cord is plugged in ?
Yes
When turning on the Power switch, is the voltage at emitter of Q503 DC103V ?
Yes
Check horizontal and heater circuit.
No
Check ICP501 and D514.
No
When turning on the Power switch, is the voltage at pin 20 of IC101 high ?
Yes
Check Q501~Q503.
No
Check IC101 and the peripheral circuit.

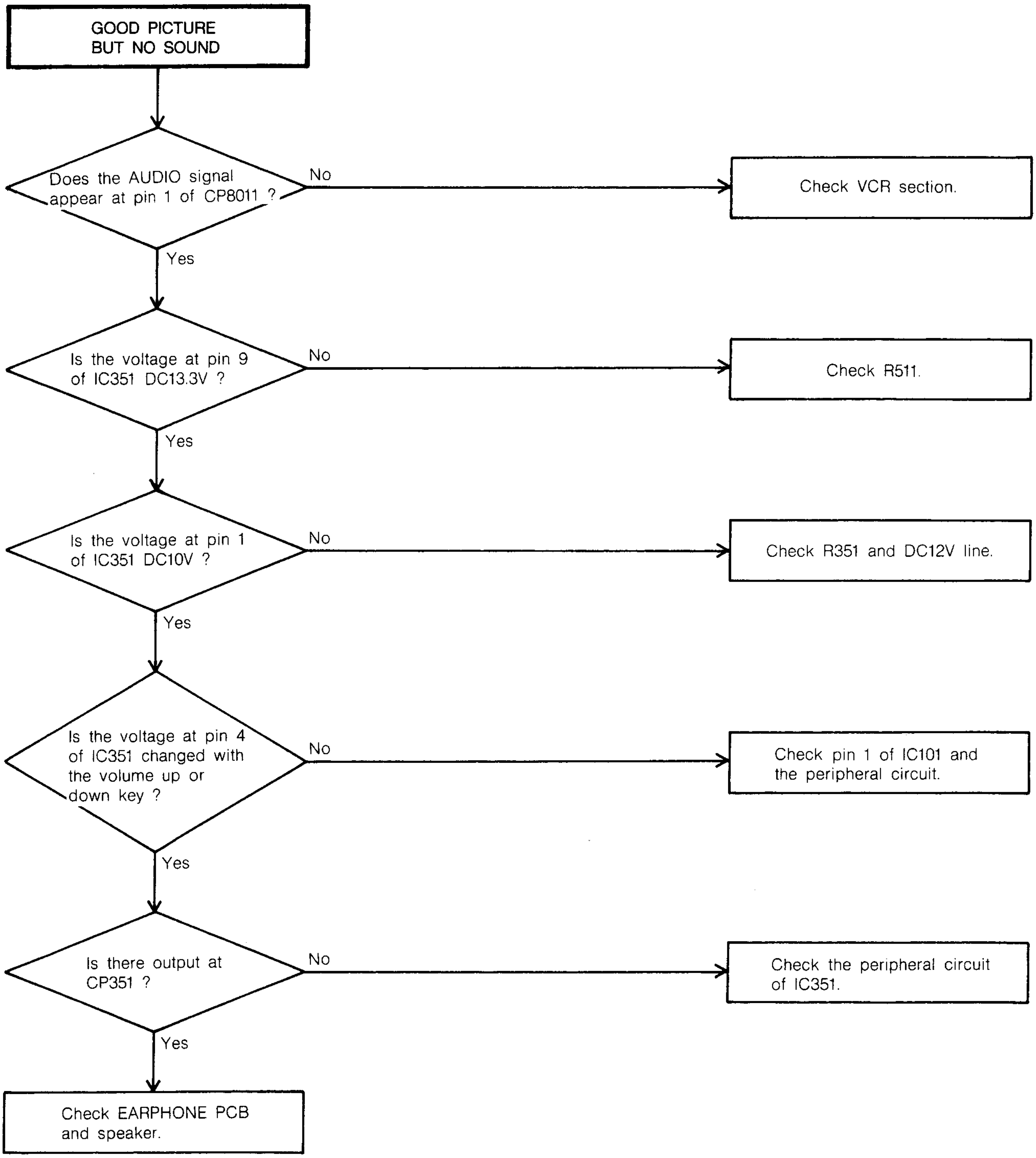
TROUBLESHOOTING GUIDE


NO PICTURE
Is there VIDEO waveform at pin 3 of CP8011 ?
No
Check VCR section.
Yes
Is the voltage at pin 12 of IC401 DC8.4V ?
No
Check DC9V line.
Yes
Is there VIDEO waveforms at pins 37, 39 and 41 of IC401 ?
No
Check IC401 and the peripheral circuit.
Yes
Are there waveforms at pins 22, 26 and 30 of IC901 ?
Yes
Check CRT PCB.
No
Is the voltage at pin 1 of IC901 DC9V ?
No
Check DC9V line.
Yes
Is there V. BLK. PULSE signal at pin 18 of IC901 ?
No
Check pin 8 of IC402.
Yes
Is there waveform at pin 18 of IC901 ?
No
Check FB401 and the peripheral circuit.
Yes
Check the peripheral circuit of IC901 and CRT PCB.

TROUBLESHOOTING GUIDE

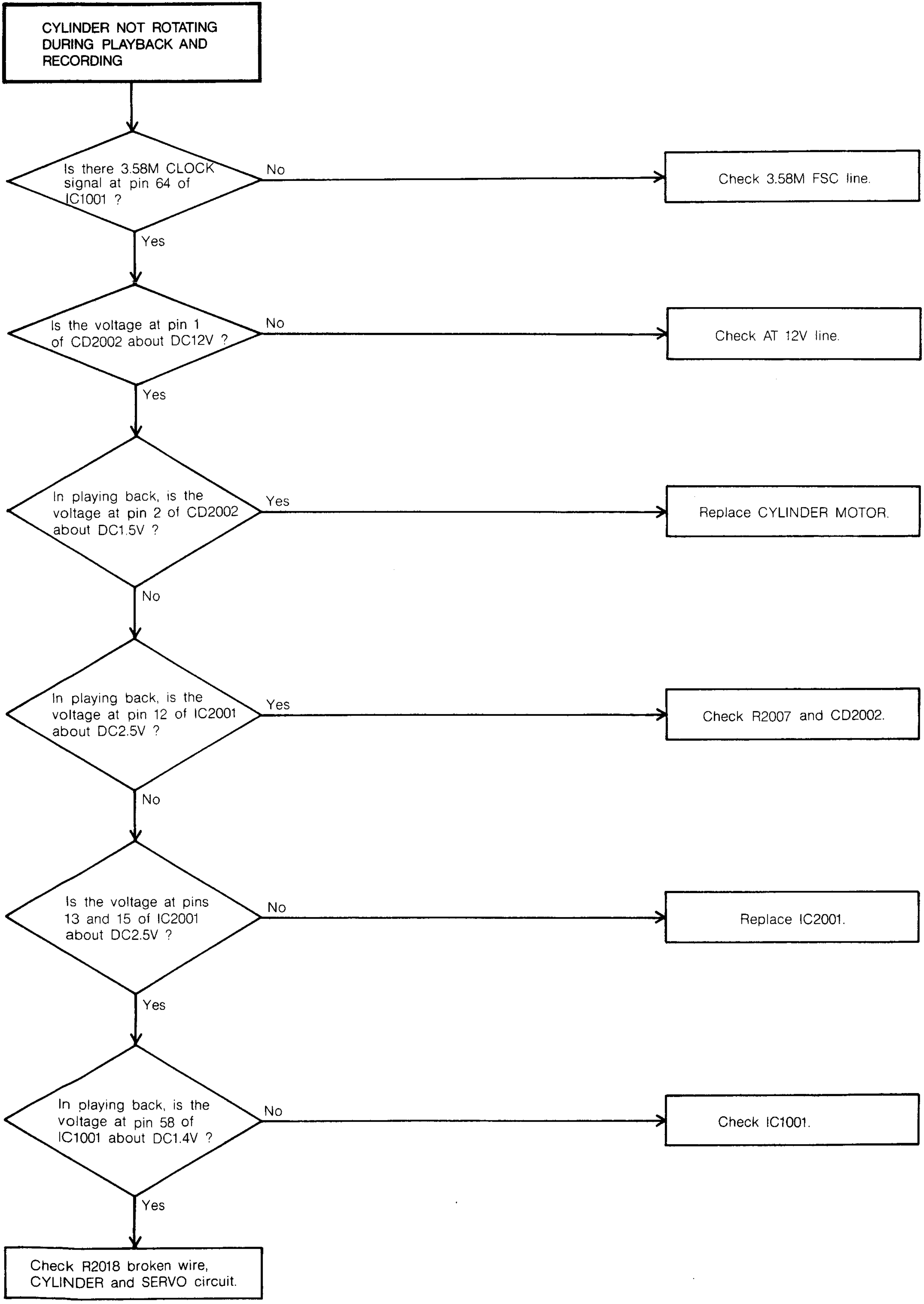

ONLY A LINE IS APPEARED
Is the voltage at pin 7 of IC402 DC24V ?
No
Check R441, FB401 and the peripheral circuit.
Yes
Does the VERTICAL signal appear at pin 46 of IC401 ?
No
Check IC401.
Yes
Check IC402 and Q405.

TROUBLESHOOTING GUIDE

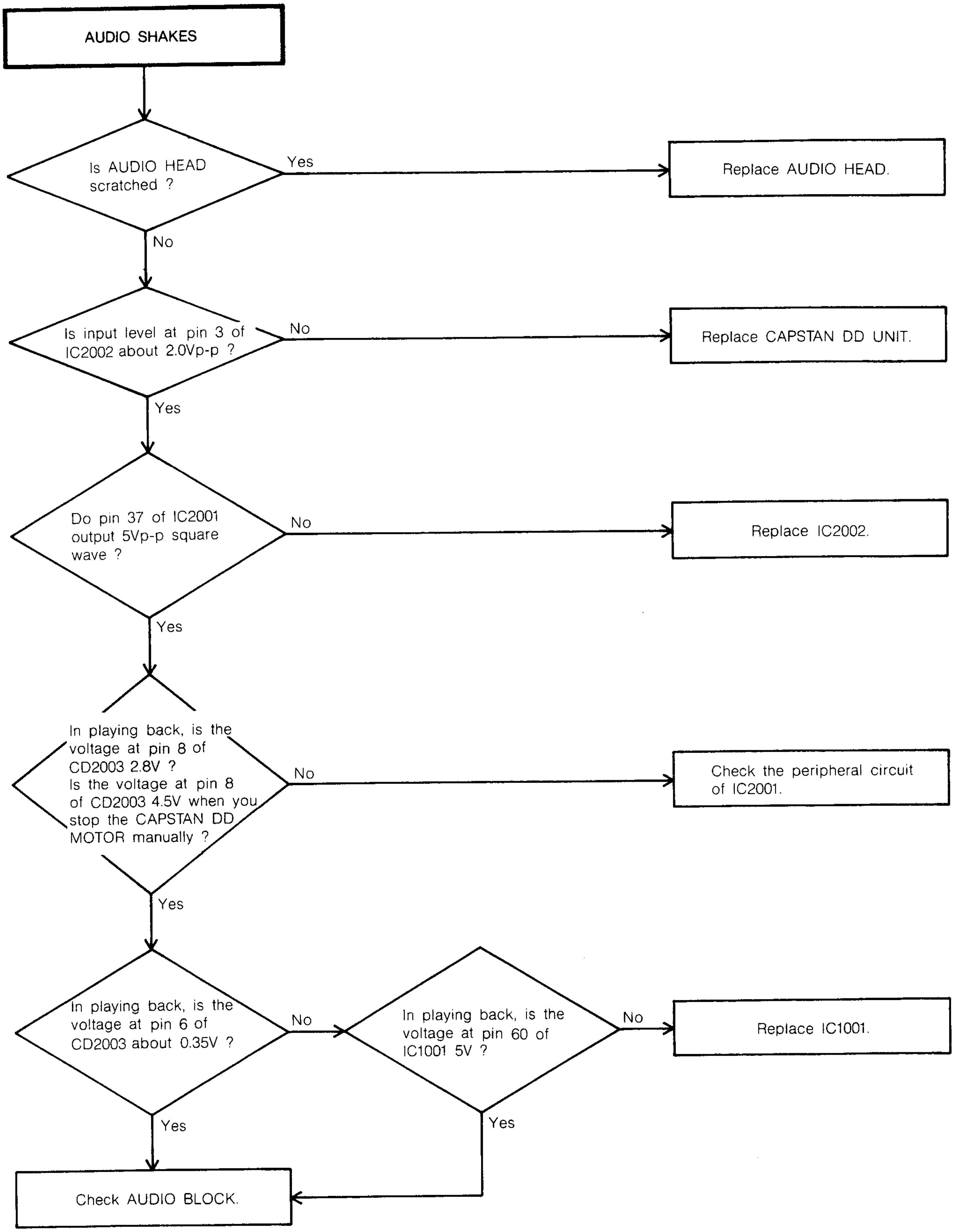

GOOD PICTURE
BUT NO SOUND
Does the AUDIO signal appear at pin 1 of CP8011 ?
No
Check VCR section.
Yes
Is the voltage at pin 9 of IC351 DC13.3V ?
No
Check R511.
Yes
Is the voltage at pin 1 of IC351 DC10V ?
No
Check R351 and DC12V line.
Yes
Is the voltage at pin 4 of IC351 changed with the volume up or down key ?
No
Check pin 1 of IC101 and the peripheral circuit.
Yes
Is there output at CP351 ?
No
Check the peripheral circuit of IC351.
Yes
Check EARPHONE PCB and speaker.

TROUBLESHOOTING GUIDE

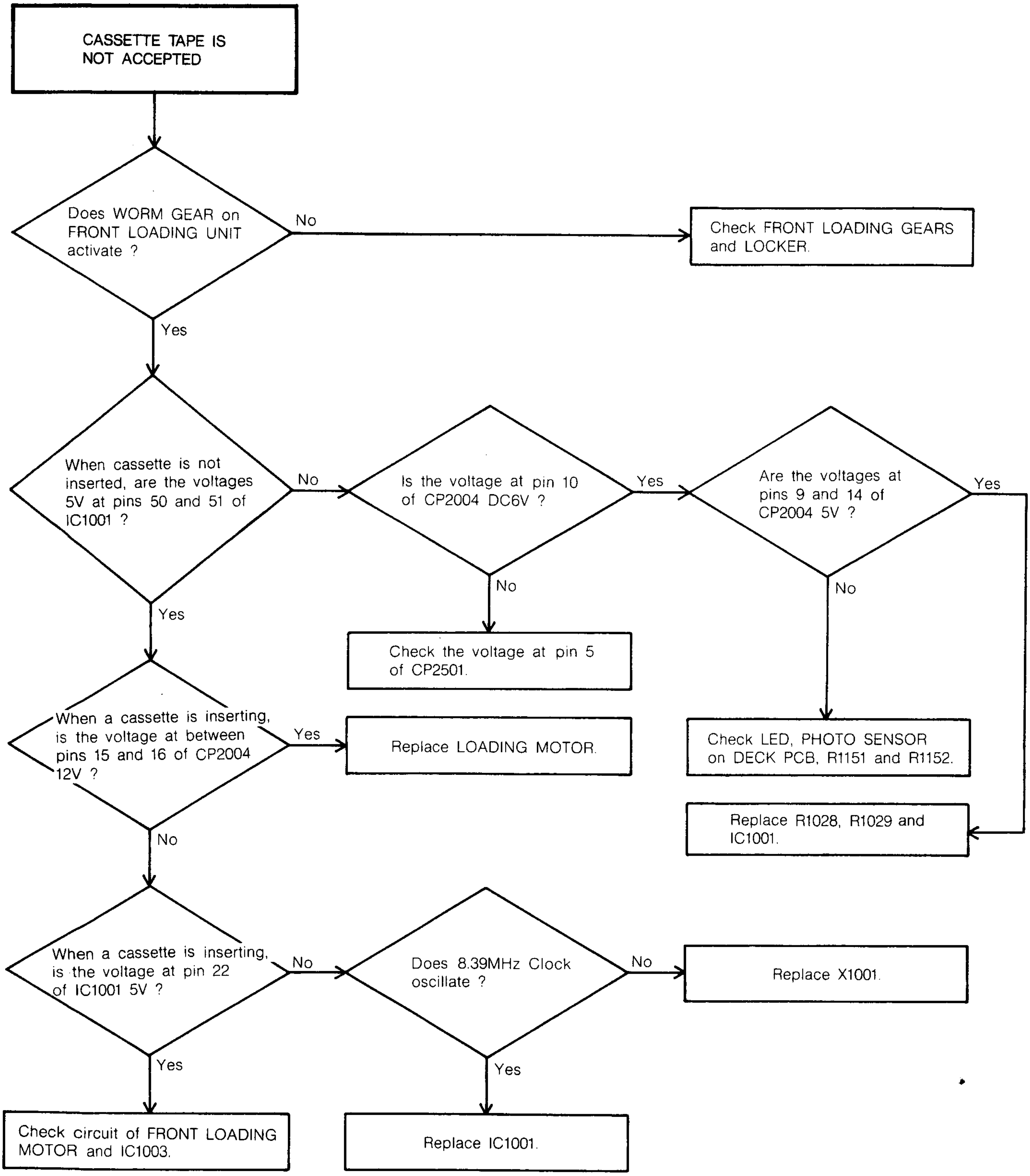
(VCR SECTION)


CYLINDER NOT ROTATING DURING PLAYBACK AND RECORDING
Is there 3.58M CLOCK signal at pin 64 of IC1001 ?
No
Check 3.58M FSC line.
Yes
Is the voltage at pin 1 of CD2002 about DC12V ?
No
Check AT 12V line.
Yes
In playing back, is the voltage at pin 2 of CD2002 about DC1.5V ?
Yes
Replace CYLINDER MOTOR.
No
In playing back, is the voltage at pin 12 of IC2001 about DC2.5V ?
Yes
Check R2007 and CD2002.
No
Is the voltage at pins 13 and 15 of IC2001 about DC2.5V ?
No
Replace IC2001.
Yes
In playing back, is the voltage at pin 58 of IC1001 about DC1.4V ?
No
Check IC1001.
Yes
Check R2018 broken wire, CYLINDER and SERVO circuit.

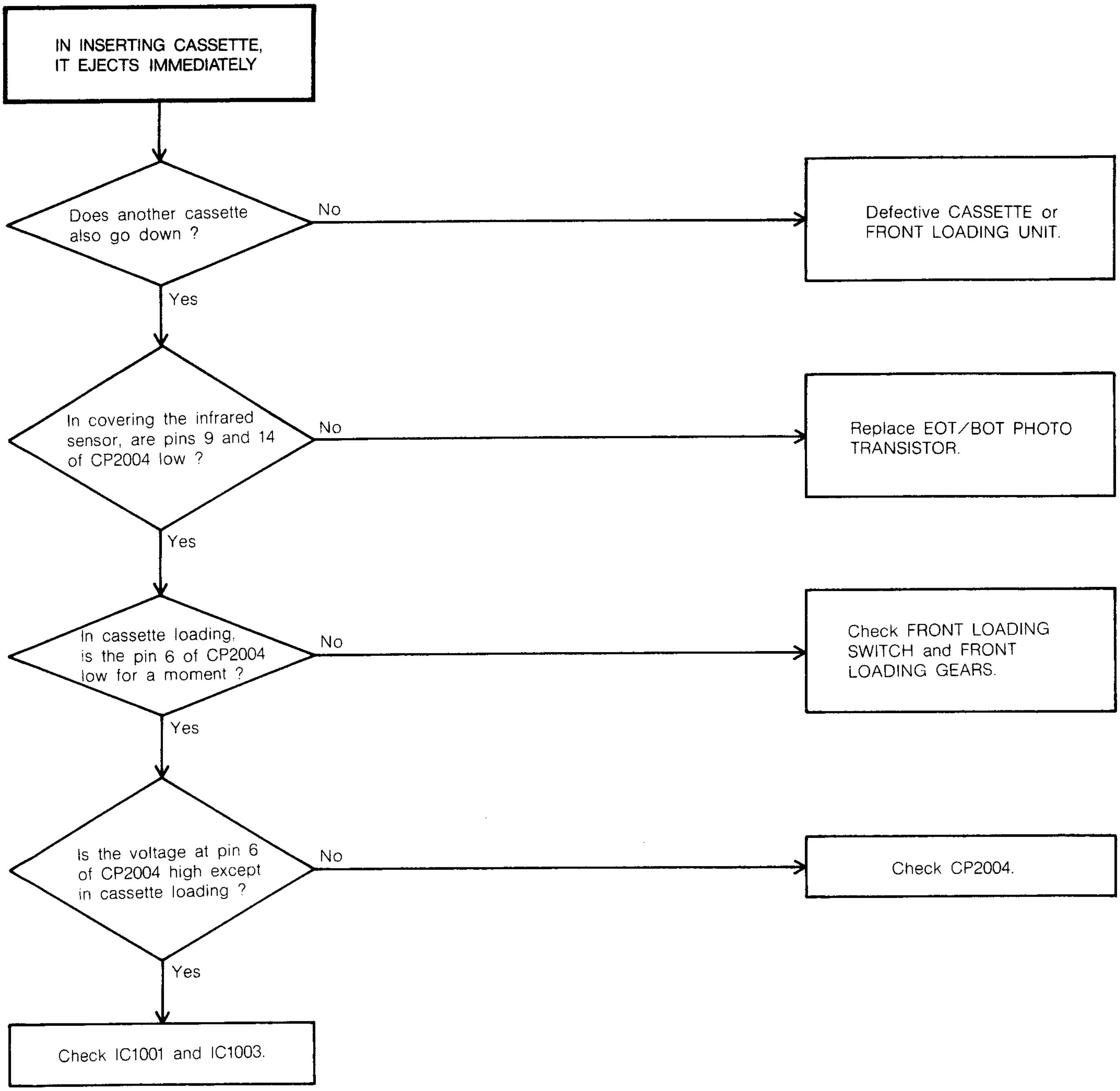
TROUBLESHOOTING GUIDE


AUDIO SHAKES
Is AUDIO HEAD scratched ?
Yes
Replace AUDIO HEAD.
No
Is input level at pin 3 of IC2002 about 2.0Vp-p ?
No
Replace CAPSTAN DD UNIT.
Yes
Do pin 37 of IC2001 output 5Vp-p square wave ?
No
Replace IC2002.
Yes
In playing back, is the voltage at pin 8 of CD2003 2.8V ? Is the voltage at pin 8 of CD2003 4.5V when you stop the CAPSTAN DD MOTOR manually ?
No
Check the peripheral circuit of IC2001.
Yes
In playing back, is the voltage at pin 6 of CD2003 about 0.35V ?
No
In playing back, is the voltage at pin 60 of IC1001 5V ?
No
Replace IC1001.
Yes
Yes
Check AUDIO BLOCK.

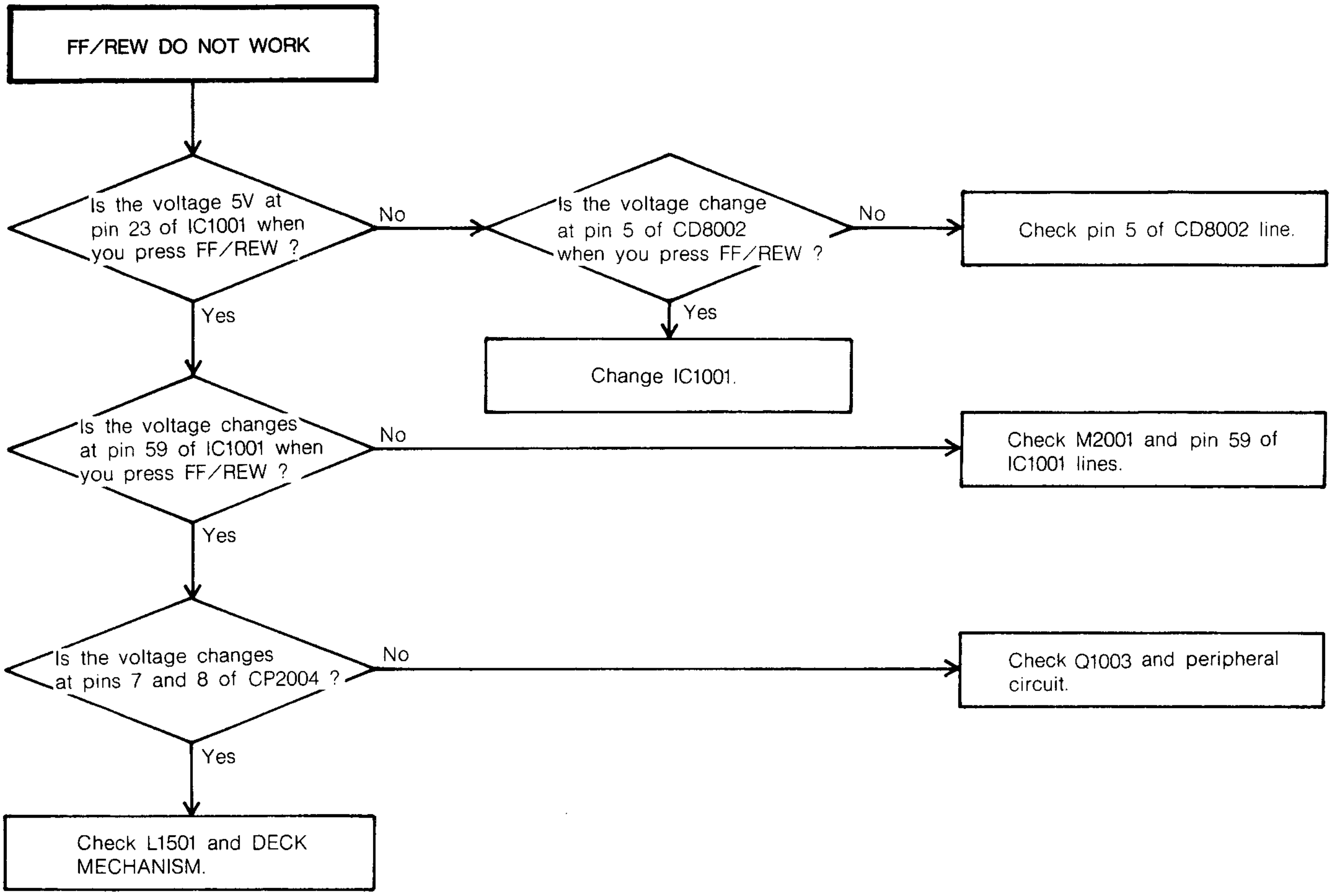
TROUBLESHOOTING GUIDE


CASSETTE TAPE IS NOT ACCEPTED
Does WORM GEAR on FRONT LOADING UNIT activate ?
No
Check FRONT LOADING GEARS and LOCKER.
Yes
When cassette is not inserted, are the voltages 5V at pins 50 and 51 of IC1001 ?
No
Is the voltage at pin 10 of CP2004 DC6V ?
Yes
Are the voltages at pins 9 and 14 of CP2004 5V ?
Yes
No
No
Yes
Check the voltage at pin 5 of CP2501.
When a cassette is inserting, is the voltage at between pins 15 and 16 of CP2004 12V ?
Yes
Replace LOADING MOTOR.
Check LED, PHOTO SENSOR on DECK PCB, R1151 and R1152.
Replace R1028, R1029 and IC1001.
No
When a cassette is inserting, is the voltage at pin 22 of IC1001 5V ?
No
Does 8.39MHz Clock oscillate ?
No
Replace X1001.
Yes
Yes
Check circuit of FRONT LOADING MOTOR and IC1003.
Replace IC1001.

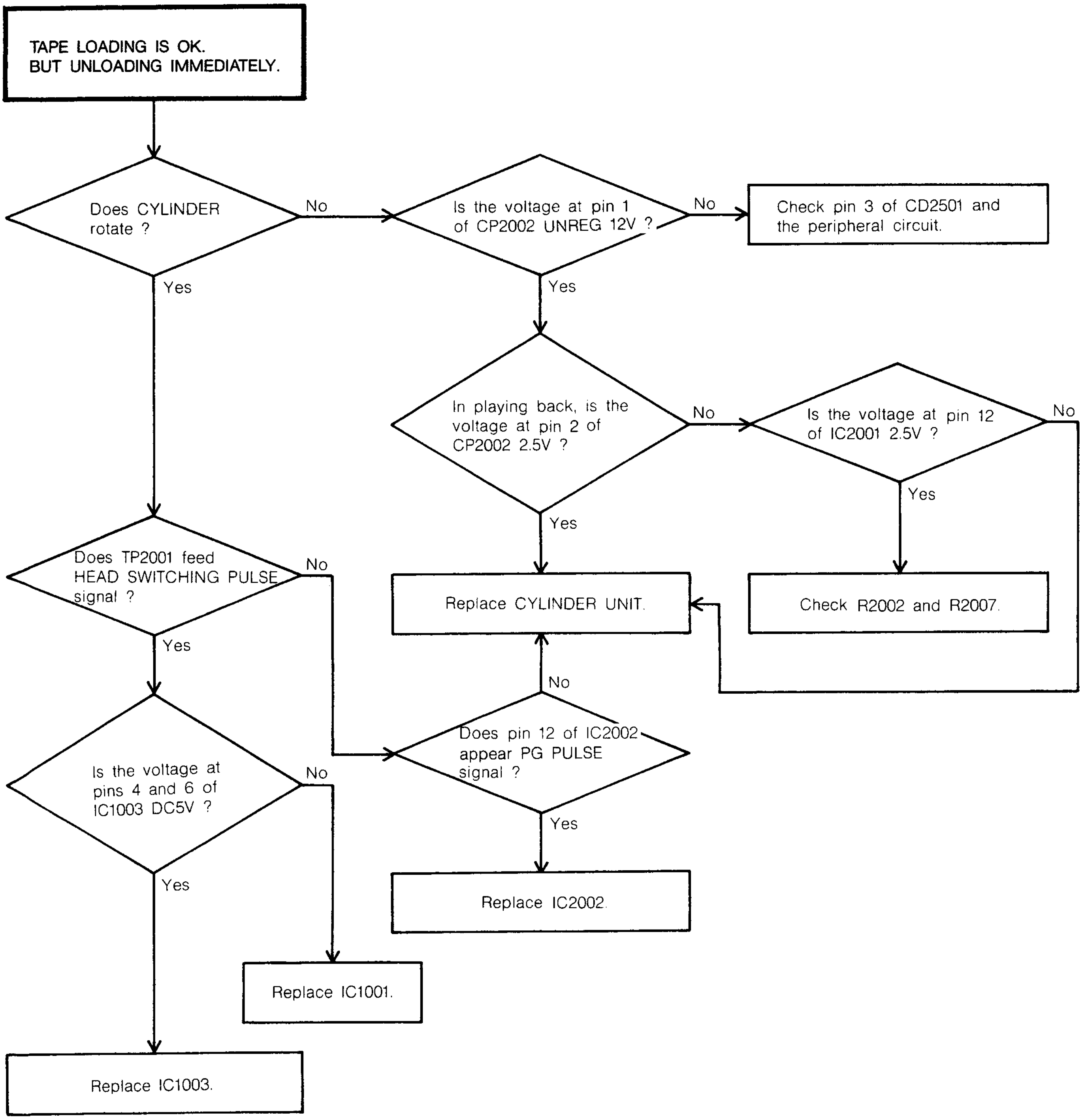
TROUBLESHOOTING GUIDE


IN INSERTING CASSETTE, IT EJECTS IMMEDIATELY
Does another cassette also go down ?
No
Defective CASSETTE or FRONT LOADING UNIT.
Yes
In covering the infrared sensor, are pins 9 and 14 of CP2004 low ?
No
Replace EOT/BOT PHOTO TRANSISTOR.
Yes
In cassette loading, is the pin 6 of CP2004 low for a moment ?
No
Check FRONT LOADING SWITCH and FRONT LOADING GEARS.
Yes
Is the voltage at pin 6 of CP2004 high except in cassette loading ?
No
Check CP2004.
Yes
Check IC1001 and IC1003.

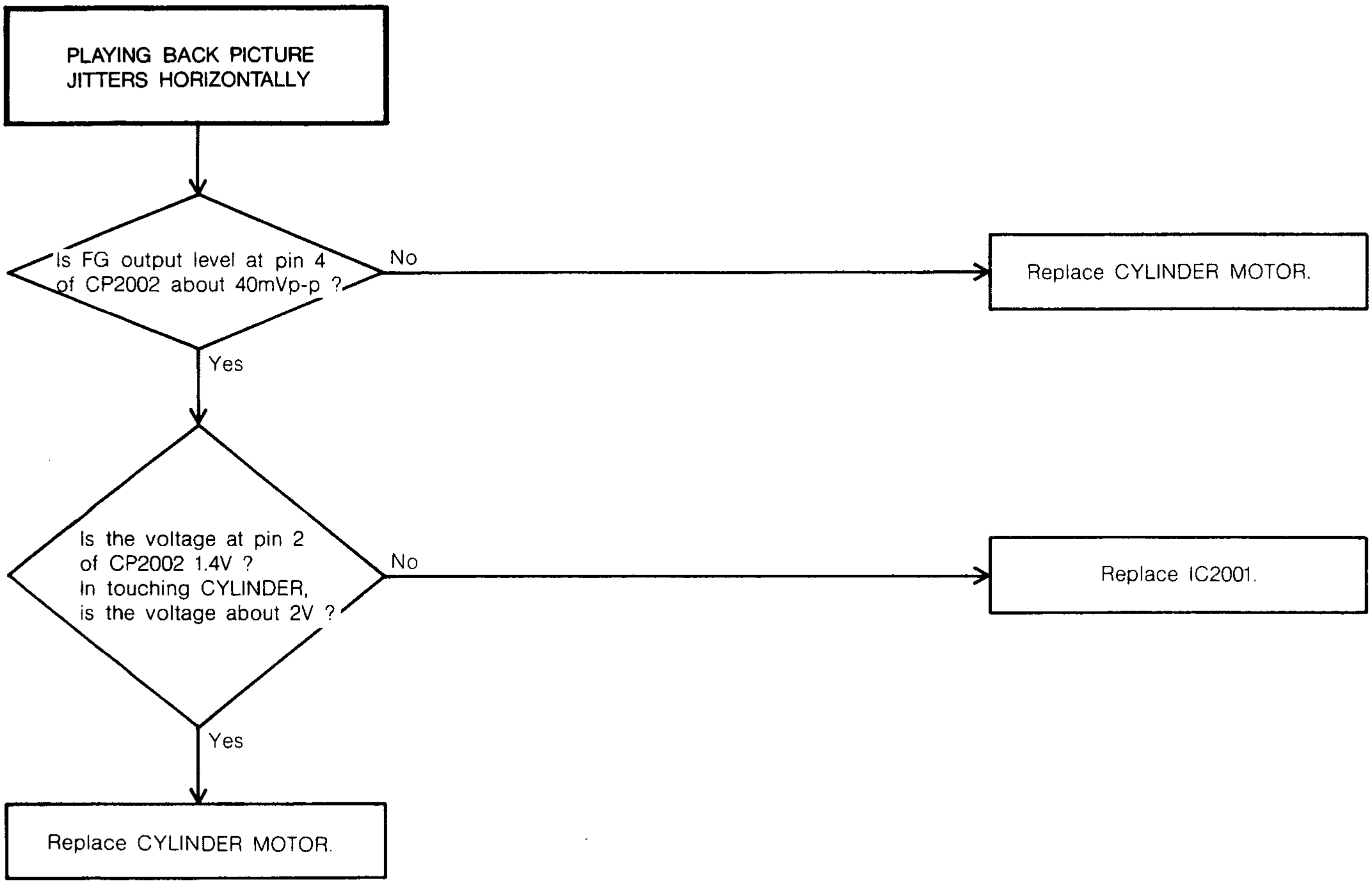
TROUBLESHOOTING GUIDE

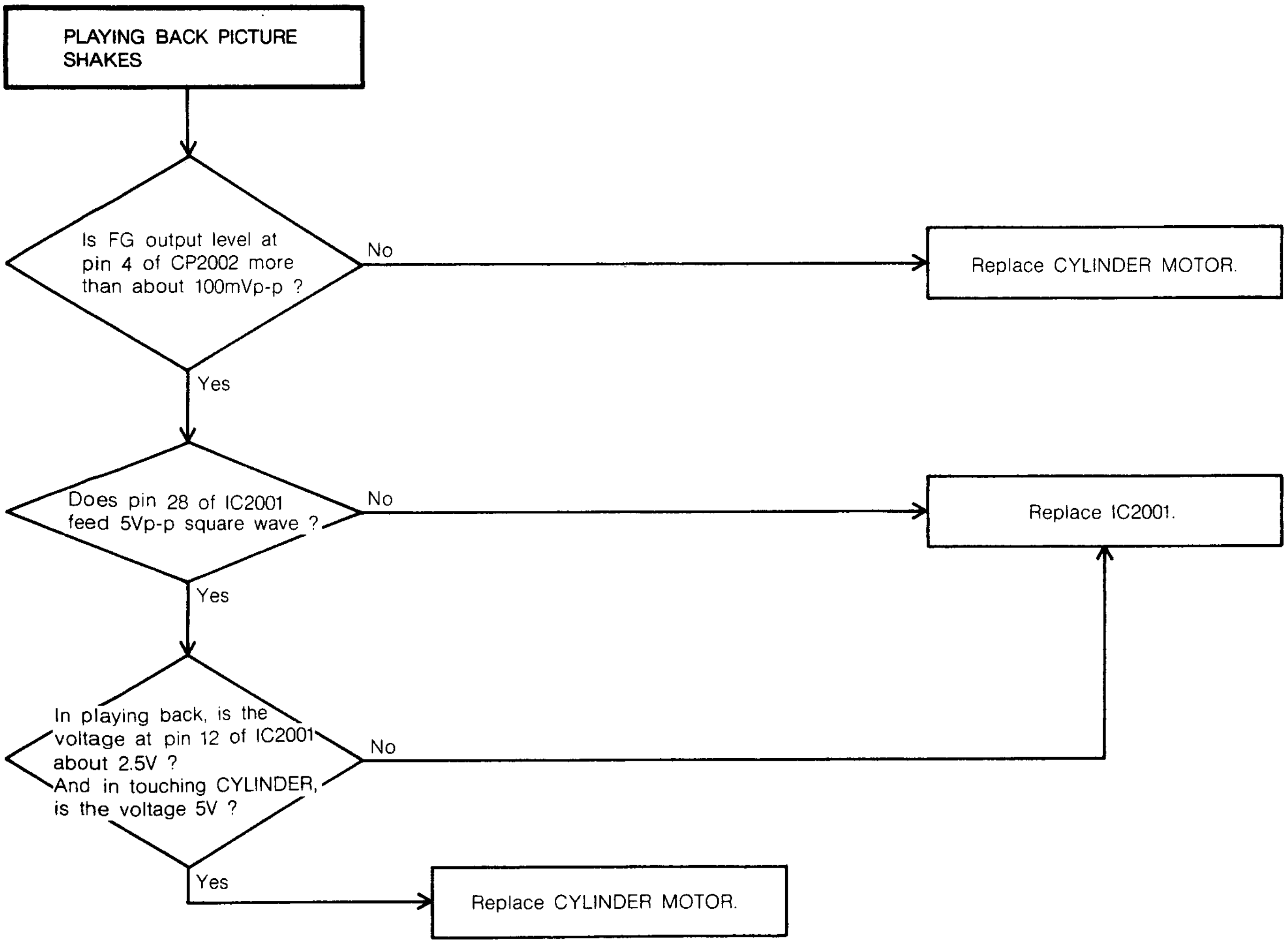

FF/REW DO NOT WORK
Is the voltage 5V at pin 23 of IC1001 when you press FF/REW ?
No
Is the voltage change at pin 5 of CD8002 when you press FF/REW ?
No
Check pin 5 of CD8002 line.
Yes
Change IC1001.
Yes
Is the voltage changes at pin 59 of IC1001 when you press FF/REW ?
No
Check M2001 and pin 59 of IC1001 lines.
Yes
Is the voltage changes at pins 7 and 8 of CP2004 ?
No
Check Q1003 and peripheral circuit.
Yes
Check L1501 and DECK MECHANISM.

TROUBLESHOOTING GUIDE

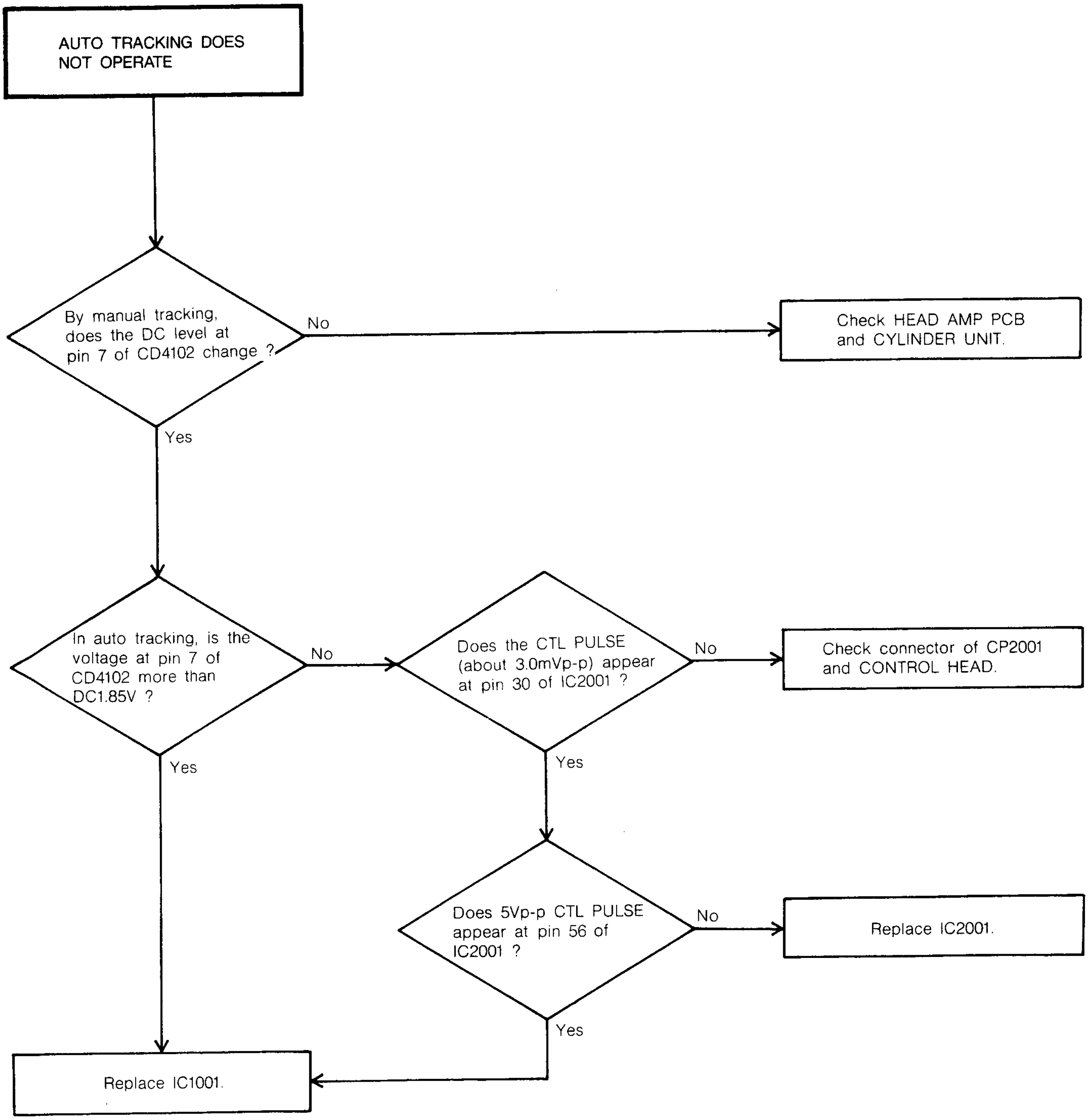

TAPE LOADING IS OK. BUT UNLOADING IMMEDIATELY.
Does CYLINDER rotate ?
No
Is the voltage at pin 1 of CP2002 UNREG 12V ?
No
Check pin 3 of CD2501 and the peripheral circuit.
Yes
Yes
In playing back, is the voltage at pin 2 of CP2002 2.5V ?
No
Is the voltage at pin 12 of IC2001 2.5V ?
No
Yes
Yes
Does TP2001 feed HEAD SWITCHING PULSE signal ?
No
Replace CYLINDER UNIT.
Check R2002 and R2007.
Yes
No
Does pin 12 of IC2002 appear PG PULSE signal ?
Is the voltage at pins 4 and 6 of IC1003 DC5V ?
No
Yes
Yes
Replace IC2002.
Replace IC1001.
Replace IC1003.

TROUBLESHOOTING GUIDE

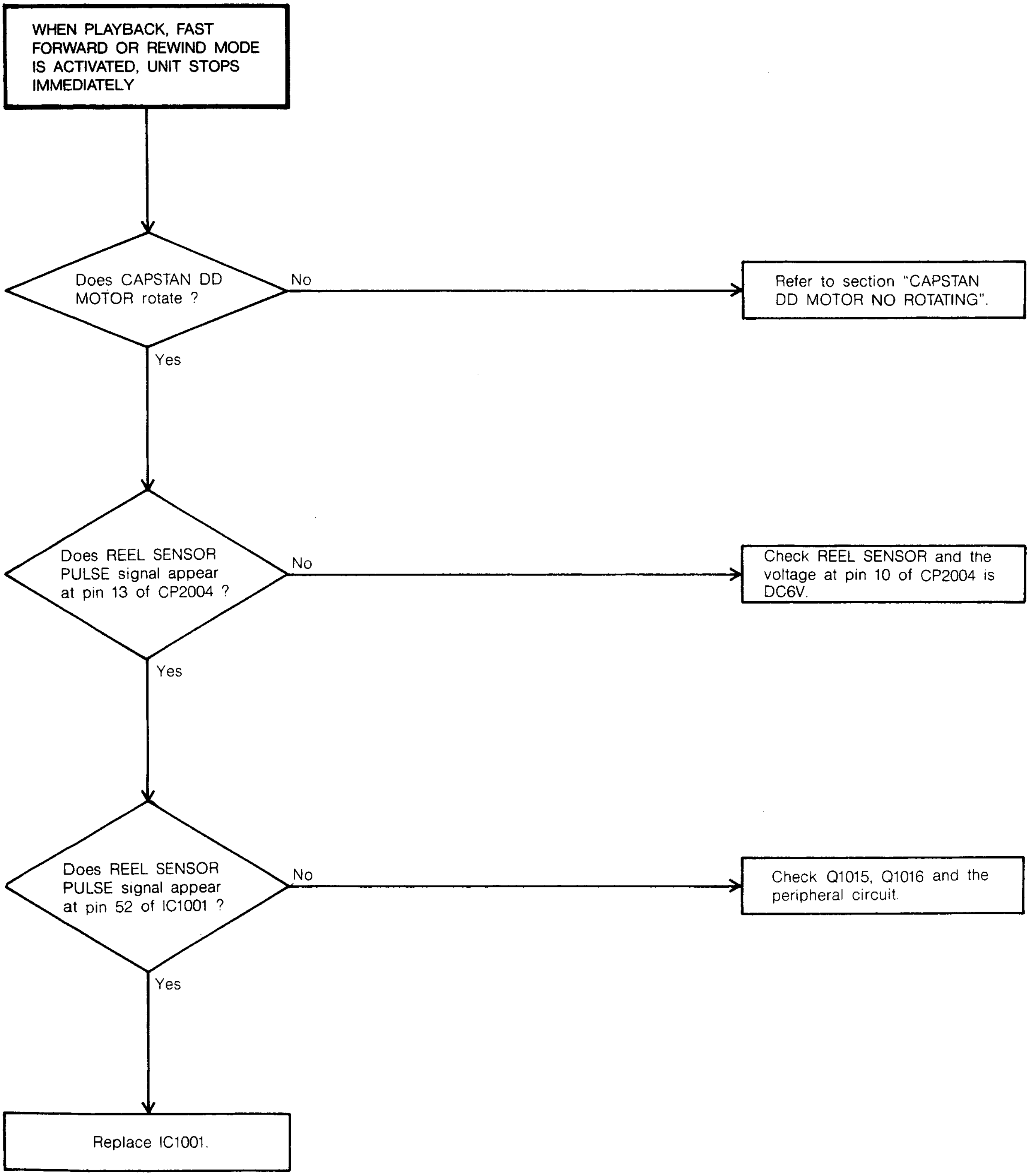

PLAYING BACK PICTURE JITTERS HORIZONTALLY
Is FG output level at pin 4 of CP2002 about 40mVp-p ?
No
Replace CYLINDER MOTOR.
Yes
Is the voltage at pin 2 of CP2002 1.4V ? In touching CYLINDER, is the voltage about 2V ?
No
Replace IC2001.
Yes
Replace CYLINDER MOTOR.


PLAYING BACK PICTURE SHAKES
Is FG output level at pin 4 of CP2002 more than about 100mVp-p ?
No
Replace CYLINDER MOTOR.
Yes
Does pin 28 of IC2001 feed 5Vp-p square wave ?
No
Replace IC2001.
Yes
In playing back, is the voltage at pin 12 of IC2001 about 2.5V ? And in touching CYLINDER, is the voltage 5V ?
No
Yes
Replace CYLINDER MOTOR.

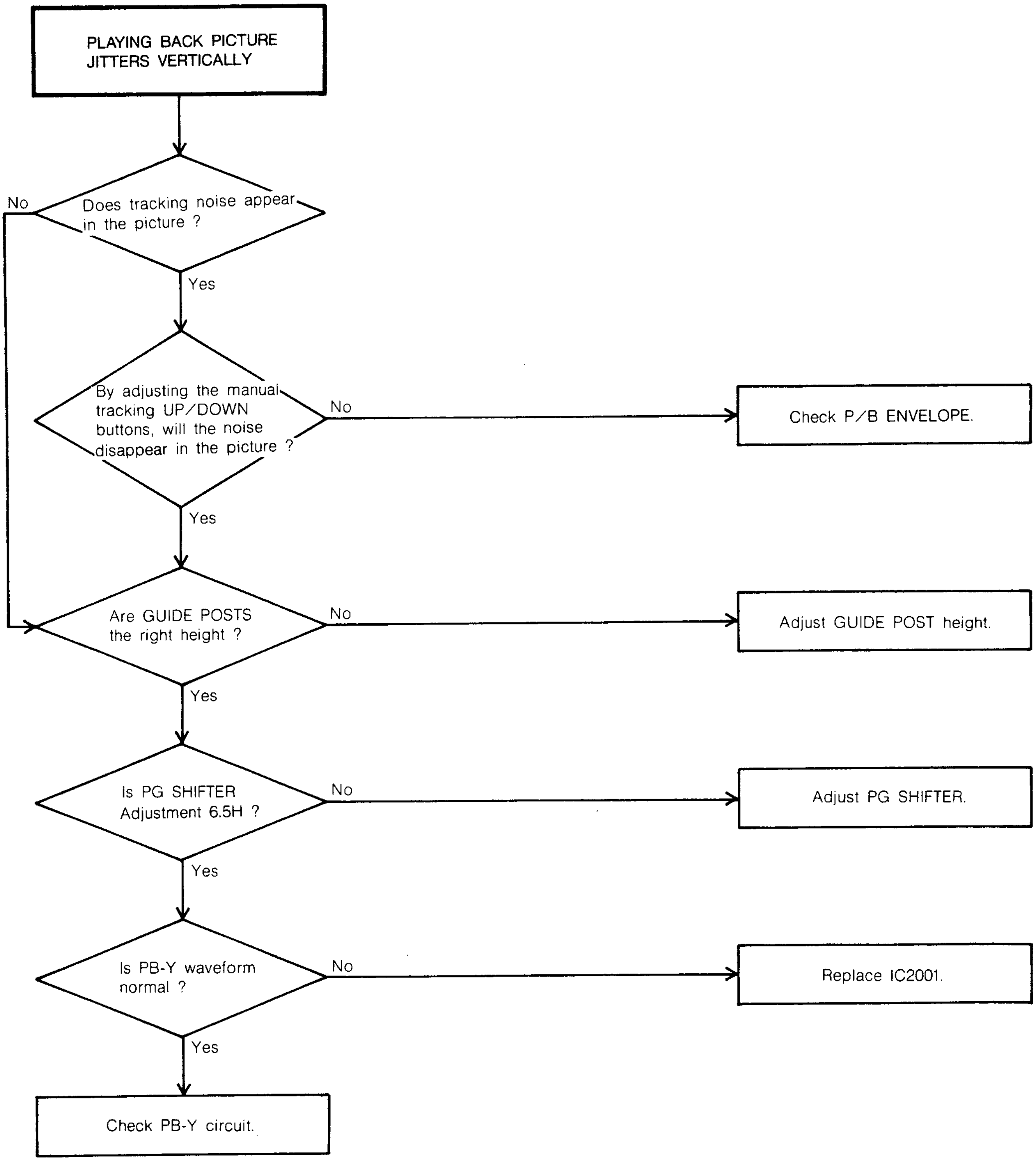
TROUBLESHOOTING GUIDE


AUTO TRACKING DOES NOT OPERATE
By manual tracking, does the DC level at pin 7 of CD4102 change ?
No
Check HEAD AMP PCB and CYLINDER UNIT.
Yes
In auto tracking, is the voltage at pin 7 of CD4102 more than DC1.85V ?
No
Does the CTL PULSE (about 3.0mVp-p) appear at pin 30 of IC2001 ?
No
Check connector of CP2001 and CONTROL HEAD.
Yes
Yes
Does 5Vp-p CTL PULSE appear at pin 56 of IC2001 ?
No
Replace IC2001.
Yes
Replace IC1001.

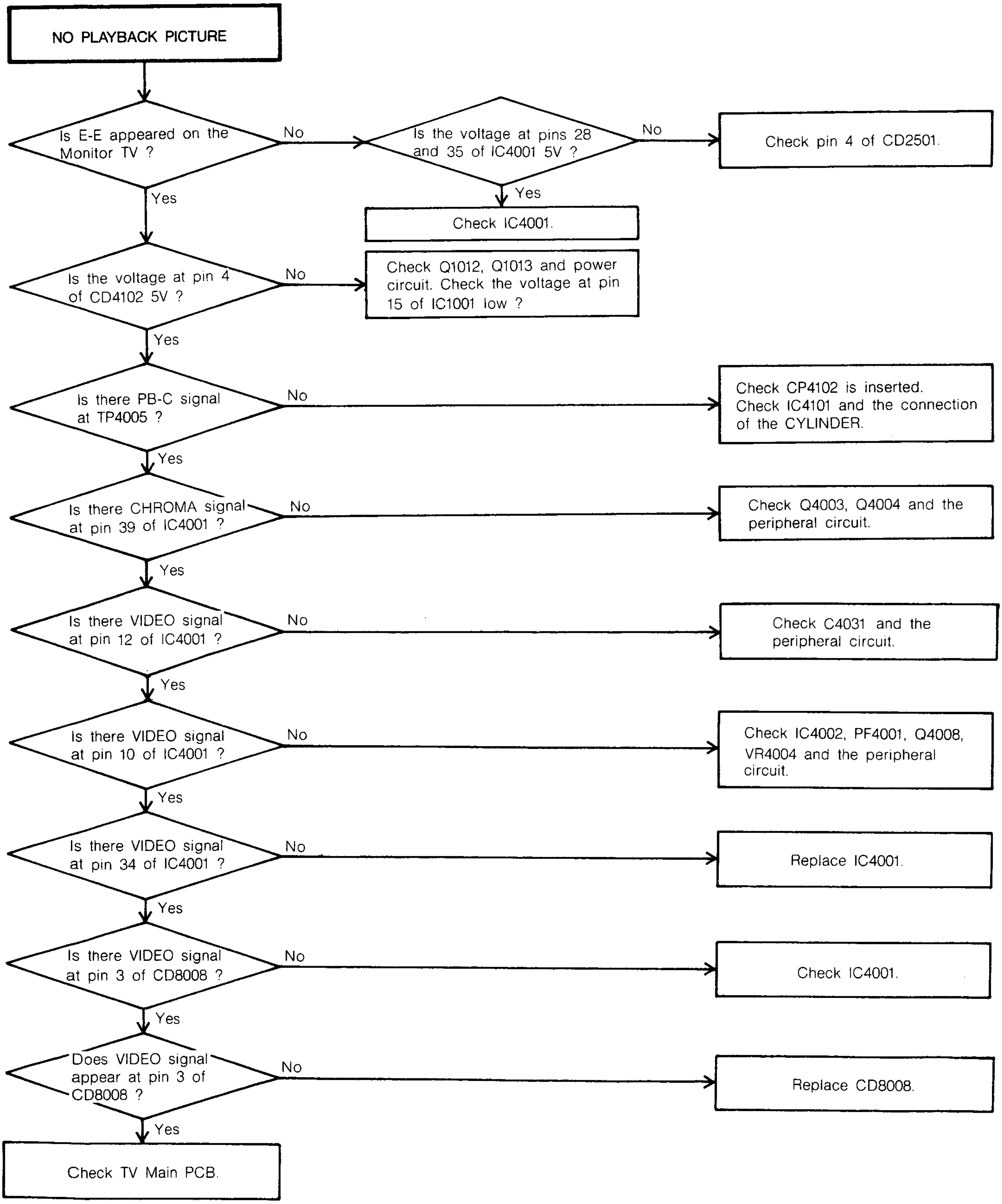
TROUBLESHOOTING GUIDE


WHEN PLAYBACK, FAST FORWARD OR REWIND MODE IS ACTIVATED, UNIT STOPS IMMEDIATELY
Does CAPSTAN DD MOTOR rotate ?
No
Refer to section "CAPSTAN DD MOTOR NO ROTATING".
Yes
Does REEL SENSOR PULSE signal appear at pin 13 of CP2004 ?
No
Check REEL SENSOR and the voltage at pin 10 of CP2004 is DC6V.
Yes
Does REEL SENSOR PULSE signal appear at pin 52 of IC1001 ?
No
Check Q1015, Q1016 and the peripheral circuit.
Yes
Replace IC1001.

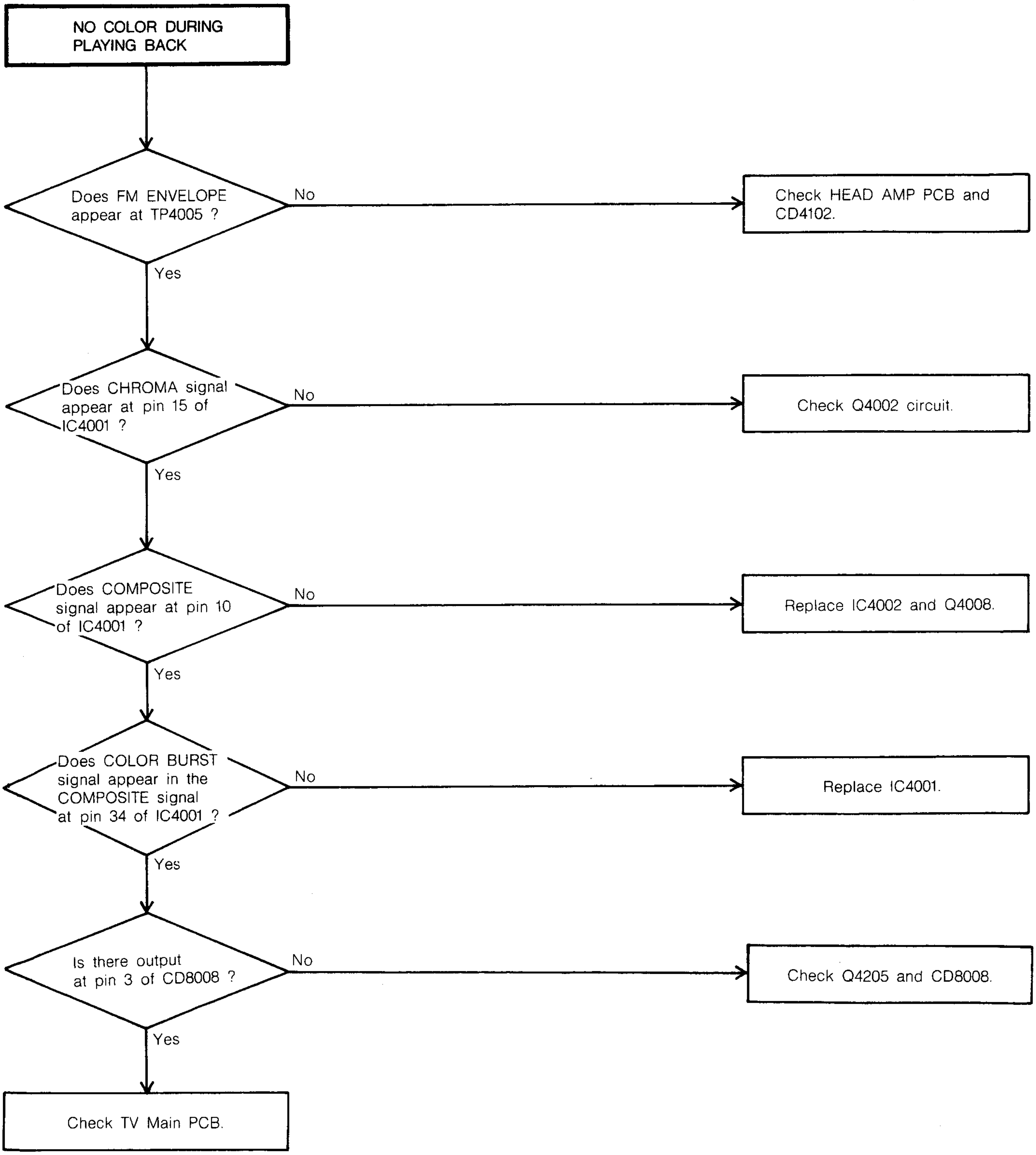
TROUBLESHOOTING GUIDE


PLAYING BACK PICTURE JITTERS VERTICALLY
Does tracking noise appear in the picture ?
No
Yes
By adjusting the manual tracking UP/DOWN buttons, will the noise disappear in the picture ?
No
Check P/B ENVELOPE.
Yes
Are GUIDE POSTS the right height ?
No
Adjust GUIDE POST height.
Yes
Is PG SHIFTER Adjustment 6.5H ?
No
Adjust PG SHIFTER.
Yes
Is PB-Y waveform normal ?
No
Replace IC2001.
Yes
Check PB-Y circuit.

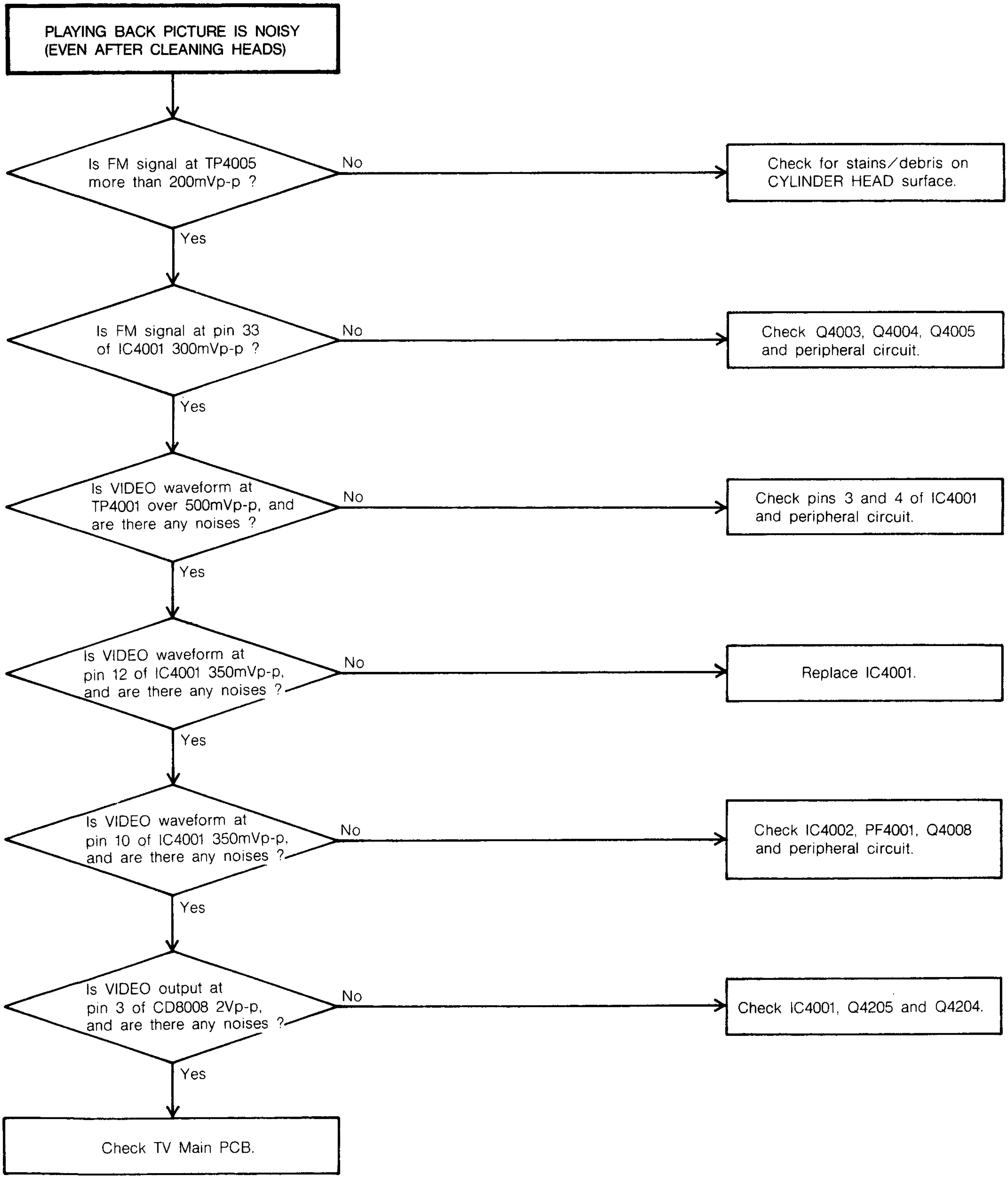
TROUBLESHOOTING GUIDE


NO PLAYBACK PICTURE
Is E-E appeared on the Monitor TV ?
No
Is the voltage at pins 28 and 35 of IC4001 5V ?
No
Check pin 4 of CD2501.
Yes
Check IC4001.
Yes
Is the voltage at pin 4 of CD4102 5V ?
No
Check Q1012, Q1013 and power circuit. Check the voltage at pin 15 of IC1001 low ?
Yes
Is there PB-C signal at TP4005 ?
No
Check CP4102 is inserted. Check IC4101 and the connection of the CYLINDER.
Yes
Is there CHROMA signal at pin 39 of IC4001 ?
No
Check Q4003, Q4004 and the peripheral circuit.
Yes
Is there VIDEO signal at pin 12 of IC4001 ?
No
Check C4031 and the peripheral circuit.
Yes
Is there VIDEO signal at pin 10 of IC4001 ?
No
Check IC4002, PF4001, Q4008, VR4004 and the peripheral circuit.
Yes
Is there VIDEO signal at pin 34 of IC4001 ?
No
Replace IC4001.
Yes
Is there VIDEO signal at pin 3 of CD8008 ?
No
Check IC4001.
Yes
Does VIDEO signal appear at pin 3 of CD8008 ?
No
Replace CD8008.
Yes
Check TV Main PCB.

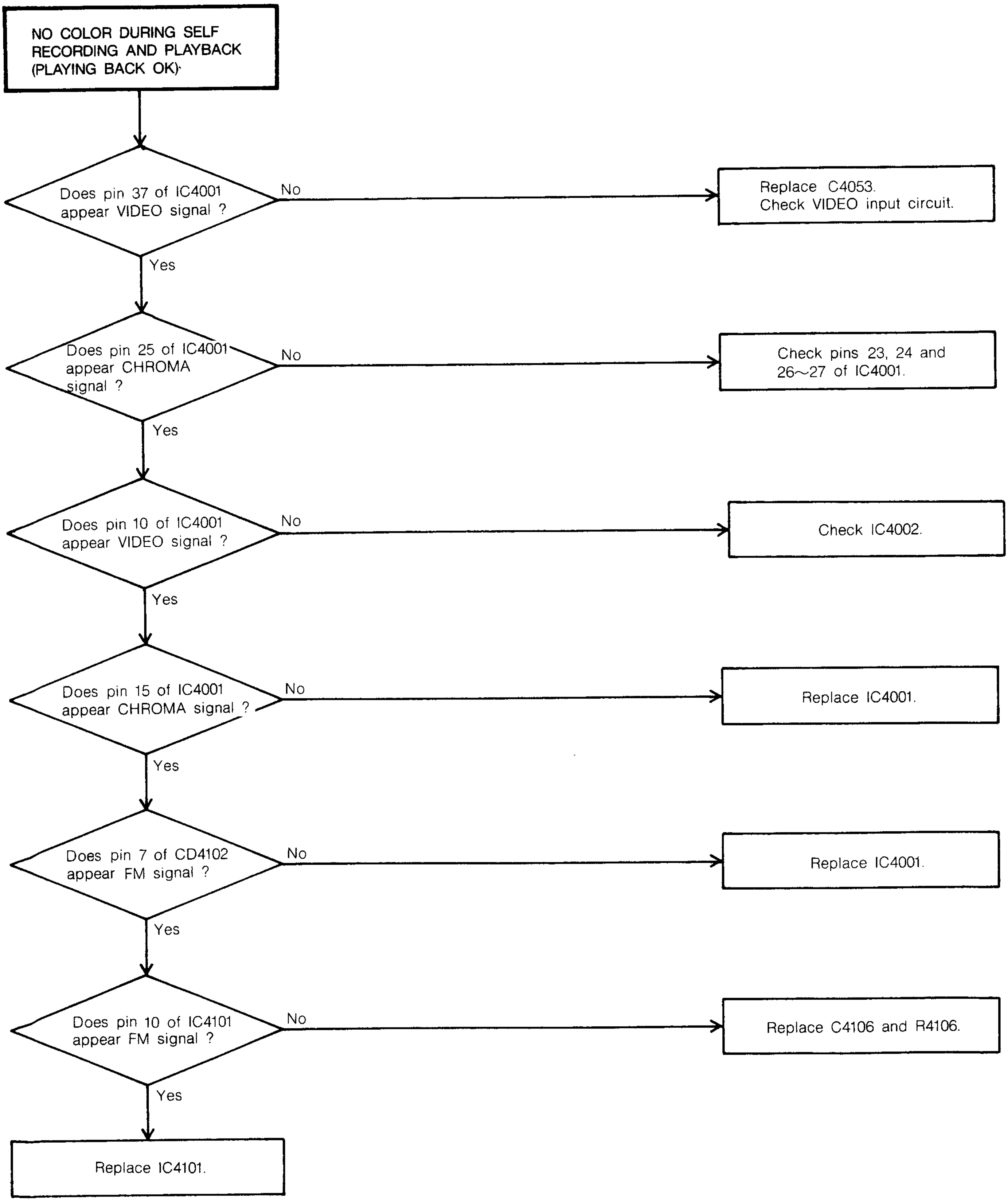
TROUBLESHOOTING GUIDE


NO COLOR DURING PLAYING BACK
Does FM ENVELOPE appear at TP4005 ?
No
Check HEAD AMP PCB and CD4102.
Yes
Does CHROMA signal appear at pin 15 of IC4001 ?
No
Check Q4002 circuit.
Yes
Does COMPOSITE signal appear at pin 10 of IC4001 ?
No
Replace IC4002 and Q4008.
Yes
Does COLOR BURST signal appear in the COMPOSITE signal at pin 34 of IC4001 ?
No
Replace IC4001.
Yes
Is there output at pin 3 of CD8008 ?
No
Check Q4205 and CD8008.
Yes
Check TV Main PCB.

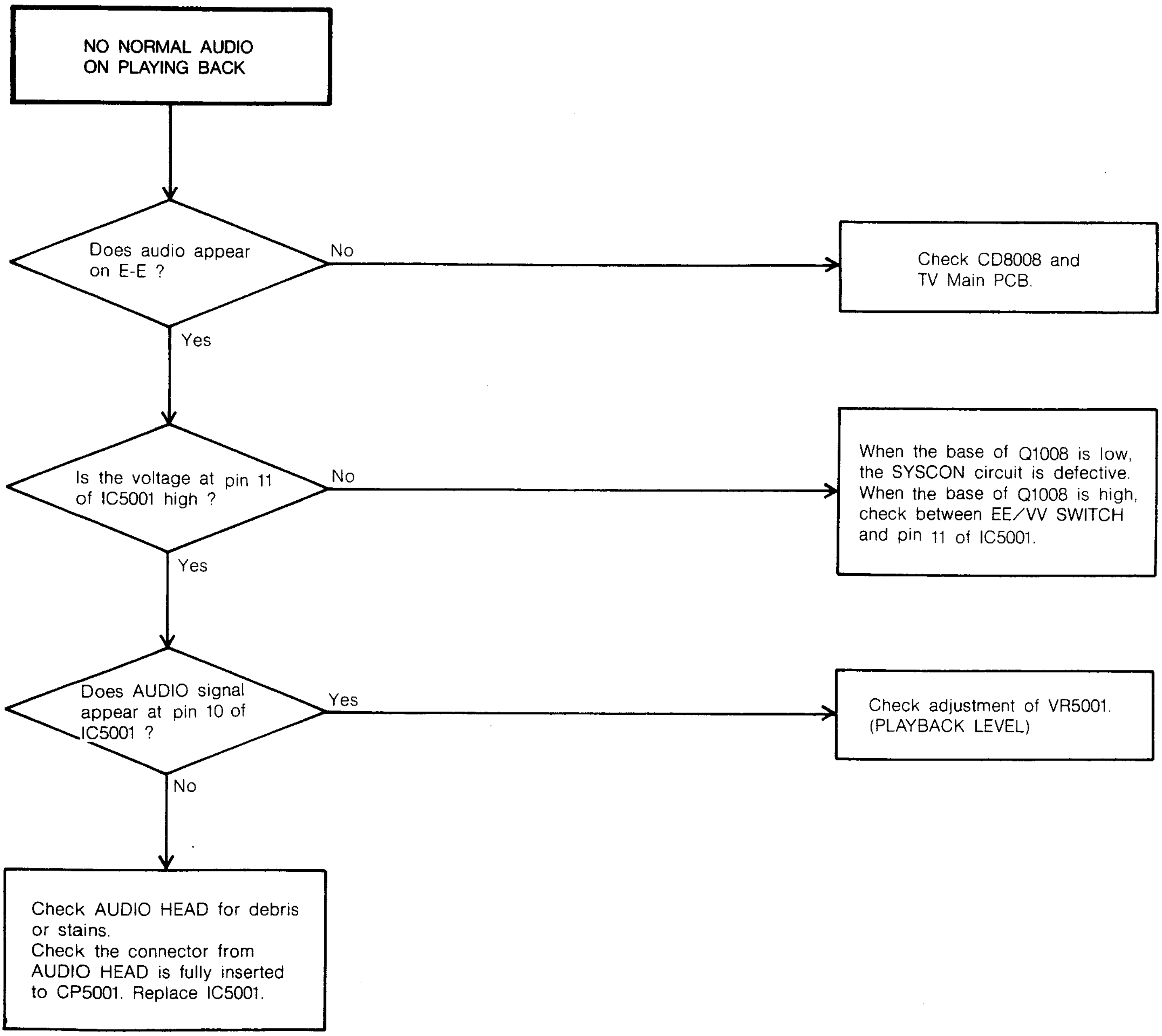
TROUBLESHOOTING GUIDE


PLAYING BACK PICTURE IS NOISY (EVEN AFTER CLEANING HEADS)
Is FM signal at TP4005 more than 200mVp-p ?
No
Check for stains/debris on CYLINDER HEAD surface.
Yes
Is FM signal at pin 33 of IC4001 300mVp-p ?
No
Check Q4003, Q4004, Q4005 and peripheral circuit.
Yes
Is VIDEO waveform at TP4001 over 500mVp-p, and are there any noises ?
No
Check pins 3 and 4 of IC4001 and peripheral circuit.
Yes
Is VIDEO waveform at pin 12 of IC4001 350mVp-p, and are there any noises ?
No
Replace IC4001.
Yes
Is VIDEO waveform at pin 10 of IC4001 350mVp-p, and are there any noises ?
No
Check IC4002, PF4001, Q4008 and peripheral circuit.
Yes
Is VIDEO output at pin 3 of CD8008 2Vp-p, and are there any noises ?
No
Check IC4001, Q4205 and Q4204.
Yes
Check TV Main PCB.

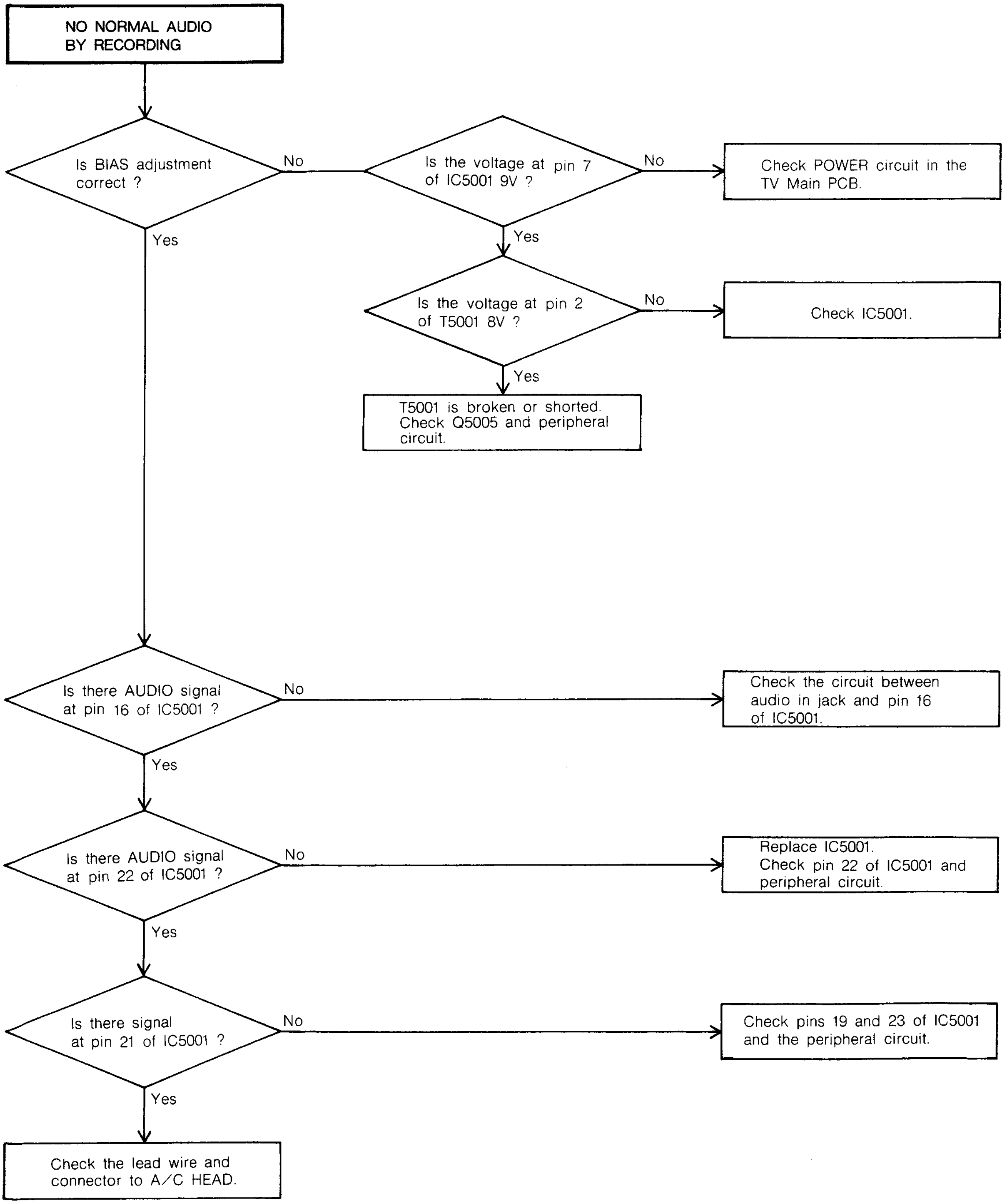
TROUBLESHOOTING GUIDE


NO COLOR DURING SELF RECORDING AND PLAYBACK (PLAYING BACK OK)
Does pin 37 of IC4001 appear VIDEO signal ?
No
Replace C4053. Check VIDEO input circuit.
Yes
Does pin 25 of IC4001 appear CHROMA signal ?
No
Check pins 23, 24 and 26~27 of IC4001.
Yes
Does pin 10 of IC4001 appear VIDEO signal ?
No
Check IC4002.
Yes
Does pin 15 of IC4001 appear CHROMA signal ?
No
Replace IC4001.
Yes
Does pin 7 of CD4102 appear FM signal ?
No
Replace IC4001.
Yes
Does pin 10 of IC4101 appear FM signal ?
No
Replace C4106 and R4106.
Yes
Replace IC4101.

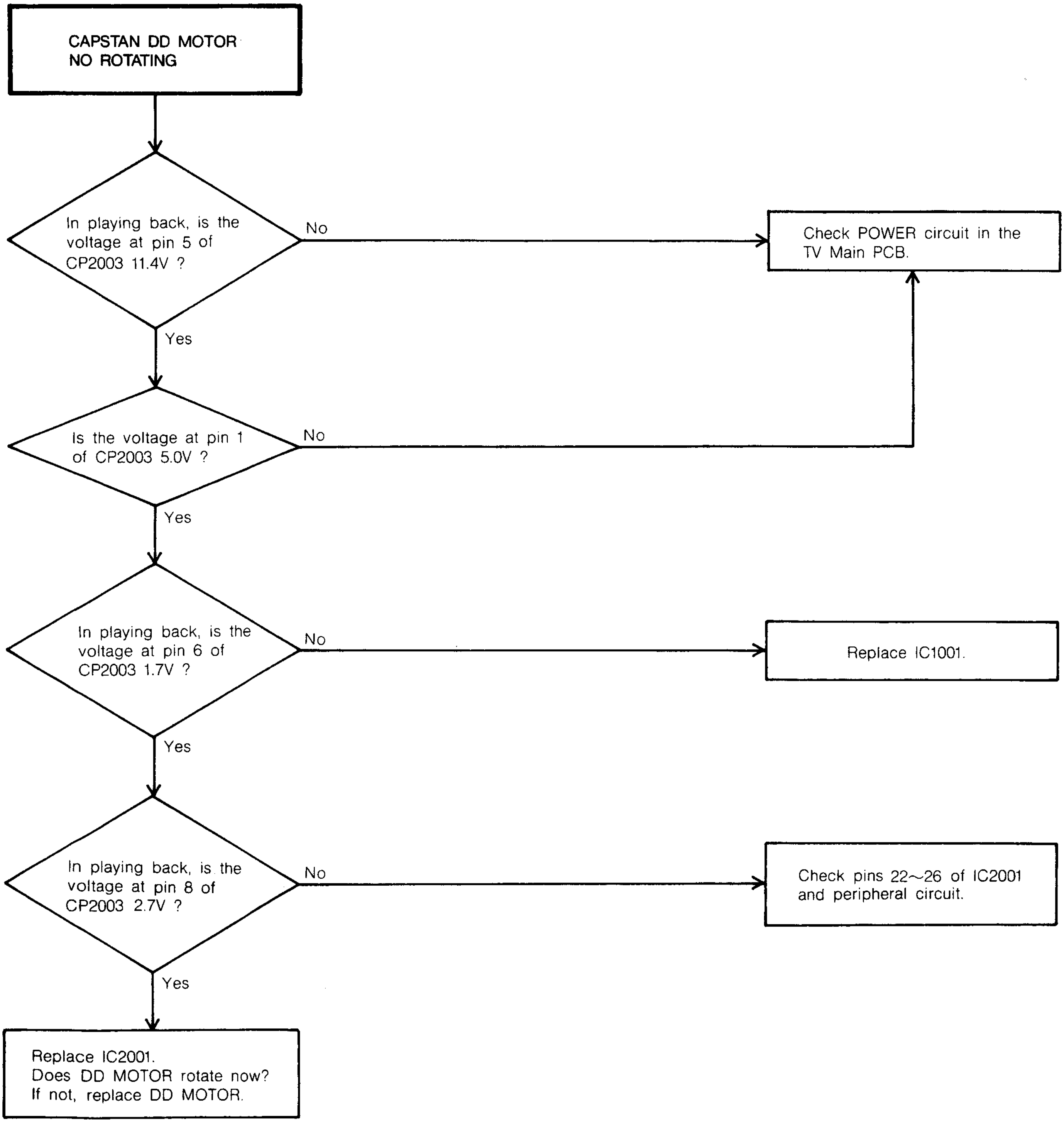
TROUBLESHOOTING GUIDE


NO NORMAL AUDIO
ON PLAYING BACK
Does audio appear on E-E ?
No
Check CD8008 and TV Main PCB.
Yes
Is the voltage at pin 11 of IC5001 high ?
No
When the base of Q1008 is low, the SYSCON circuit is defective. When the base of Q1008 is high, check between EE/VV SWITCH and pin 11 of IC5001.
Yes
Does AUDIO signal appear at pin 10 of IC5001 ?
Yes
Check adjustment of VR5001. (PLAYBACK LEVEL)
No
Check AUDIO HEAD for debris or stains. Check the connector from AUDIO HEAD is fully inserted to CP5001. Replace IC5001.

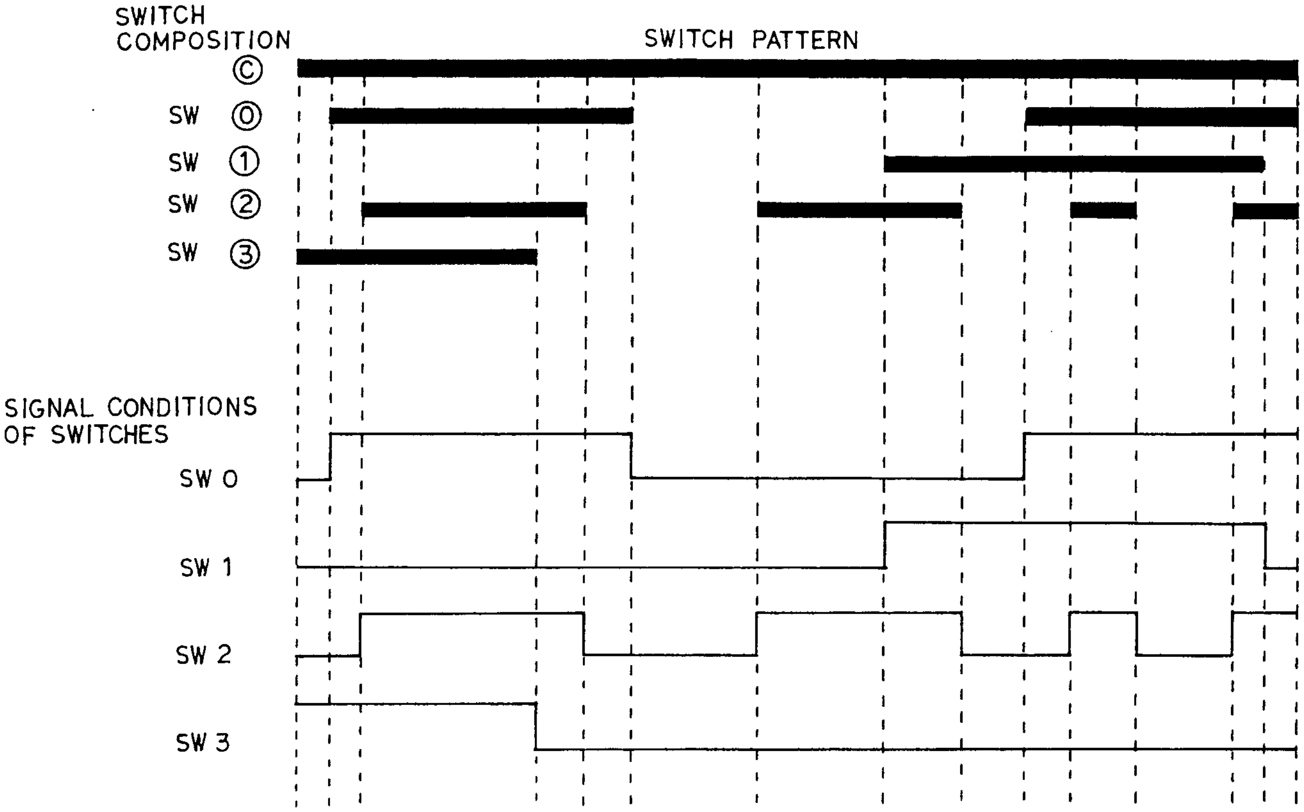
TROUBLESHOOTING GUIDE


NO NORMAL AUDIO BY RECORDING
Is BIAS adjustment correct ?
No
Is the voltage at pin 7 of IC5001 9V ?
No
Check POWER circuit in the TV Main PCB.
Yes
Is the voltage at pin 2 of T5001 8V ?
No
Check IC5001.
Yes
T5001 is broken or shorted. Check Q5005 and peripheral circuit.
Yes
Is there AUDIO signal at pin 16 of IC5001 ?
No
Check the circuit between audio in jack and pin 16 of IC5001.
Yes
Is there AUDIO signal at pin 22 of IC5001 ?
No
Replace IC5001. Check pin 22 of IC5001 and peripheral circuit.
Yes
Is there signal at pin 21 of IC5001 ?
No
Check pins 19 and 23 of IC5001 and the peripheral circuit.
Yes
Check the lead wire and connector to A/C HEAD.

TROUBLESHOOTING GUIDE


CAPSTAN DD MOTOR NO ROTATING
In playing back, is the voltage at pin 5 of CP2003 11.4V ?
No
Check POWER circuit in the TV Main PCB.
Yes
Is the voltage at pin 1 of CP2003 5.0V ?
No
Yes
In playing back, is the voltage at pin 6 of CP2003 1.7V ?
No
Replace IC1001.
Yes
In playing back, is the voltage at pin 8 of CP2003 2.7V ?
No
Check pins 22~26 of IC2001 and peripheral circuit.
Yes
Replace IC2001. Does DD MOTOR rotate now? If not, replace DD MOTOR.

SYSTEM SWITCH MODE


SWITCH COMPOSITION
SWITCH PATTERN
©
SW ⓪
SW ①
SW ②
SW ③
SIGNAL CONDITIONS OF SWITCHES
SW 0
SW 1
SW 2
SW 3

0 1 1 1 1 0 0 0 0 1 1 1 1 1

0 0 0 0 0 0 0 1 1 1 1 1 1 0

0 0 1 1 0 0 1 1 0 0 1 0 1 1

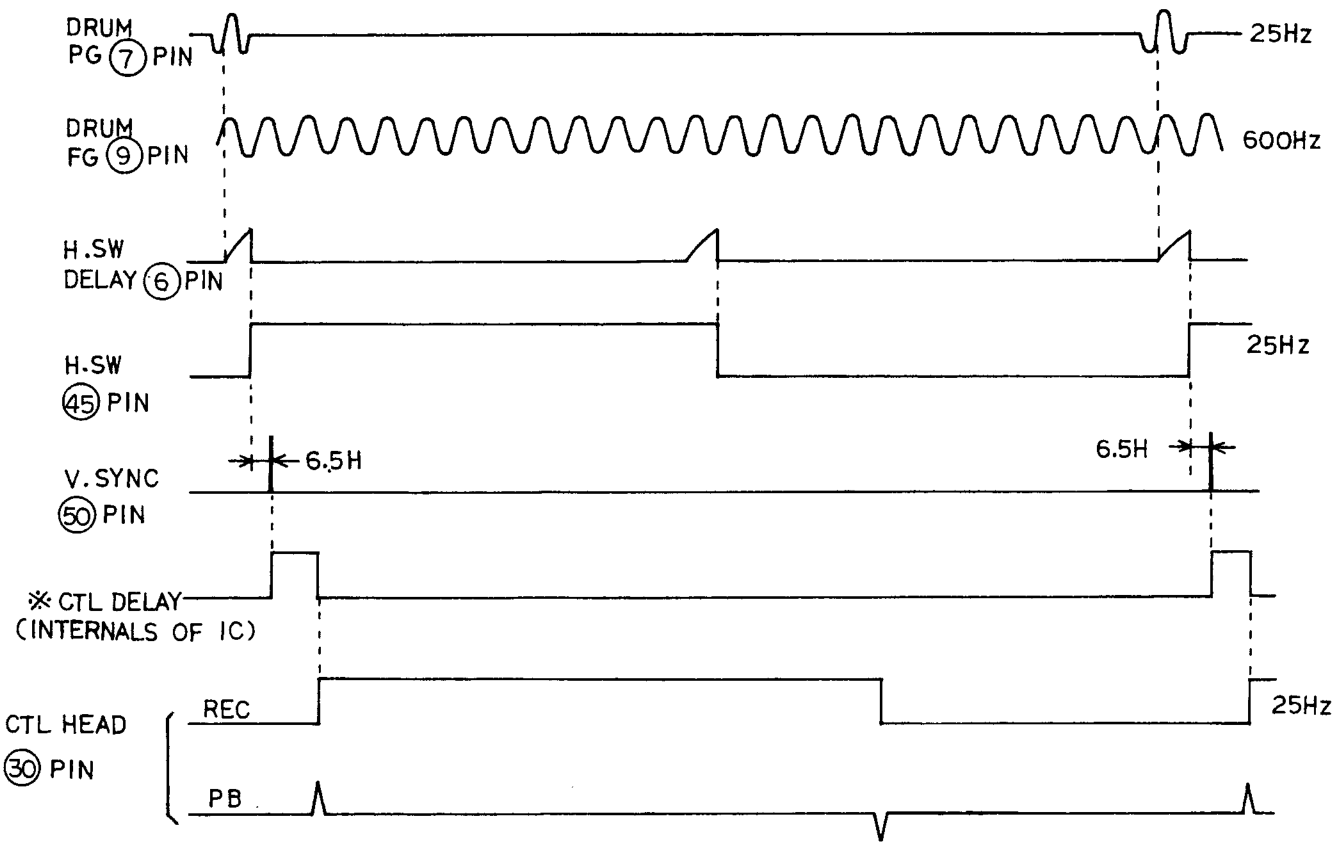
1 1 1 0 0 0 0 0 0 0 0 0 0 0

SWITCH				DECK MODE
SW 3	SW 2	SW 1	SW 0	
1	0	0	0	EJECT
1	0	0	1	CASSETTE UP
1	1	0	1	CASSETTE DOWN
0	1	0	1	RETURN 1
0	0	0	1	IDLE
0	0	0	0	RETURN 2
0	1	0	0	STAND BY
0	1	1	0	F. STILL
0	0	1	0	REC/PLAY
0	0	1	1	
0	1	1	1	VSR
0	0	1	1	
0	1	1	1	RETURN 3

OUTPUT LIST OF THE MECHANICAL SWITCHES
(1 : SW ON)

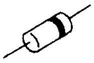
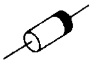
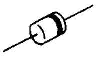
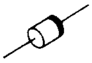
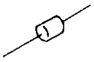
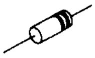
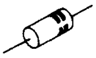
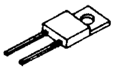
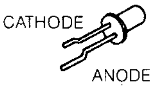
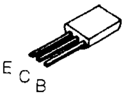
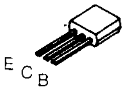
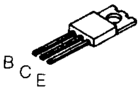
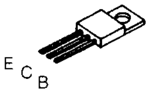
SERVO TIMING CHART

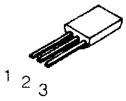
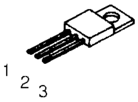
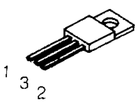
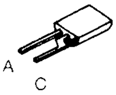
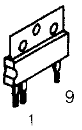
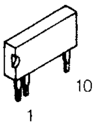
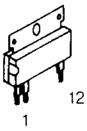
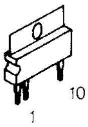
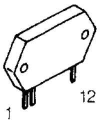
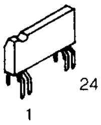
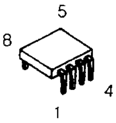
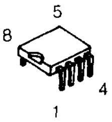
IC2001 (OEC 0022A)


DRUM PG ⑦ PIN
25Hz
DRUM FG ⑨ PIN
600HZ
H.SW DELAY ⑥ PIN
H.SW ㊺ PIN
25Hz
V.SYNC ㊿ PIN
6.5H
6.5H
※ CTL DELAY (INTERNALS OF IC)
CTL HEAD (30) PIN
REC
PB
25Hz

※ WAVEFORM CHANGES DEPEND ON THE TAPE SPEED

SEMICONDUCTOR BASE CONNECTIONS

ILLASTRATION	DESCRIPTION
	RD6.8EB RD6.2EB RD9.1EB RD7.5EB 1S2472
	11E1TA1 11E2TA1 21DQ04FE5R RM11C R2M 1R5NU41
	1SS132 HZS6R8JB2 HZS5R6JB2
	10ELS6TA1 10ELS2TA1 11EQS04TA1
	MTZJ10C MTZJ13B
	DF005TG
	15DF6
	F5KF20
 CATHODE ANODE	SLZ-136C SLZ336B
	2SC3396 2SA1624 2SC945A 2SC2271 2SB892 2SC3000 2SA1371 2SC3468 2SA952 2SD734 2SD1111 2SC1317 2SB926 2SC536 2SB698 2SA984 2SA608 2SC2909
	DTA124E DTC143E DTA144E DTC124E DTA114E
	2SC4160
	2SD1554

ILLASTRATION	DESCRIPTION
	PST600F-2 PST600H
	L7805V L7812V AN7809F
	UPC78M09H
	UPC574J-T
	AN5265
	LA7210
	TA8445K
	BA6247
	STK730-060
	BA7790LS
	LA6358T LC89925
	ST24C02AB1

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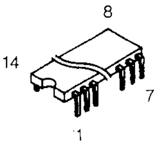
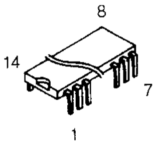
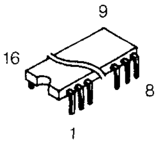
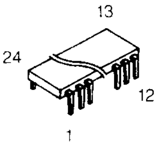
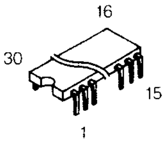
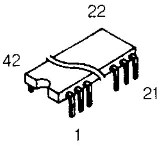
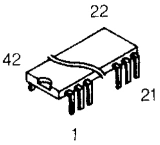
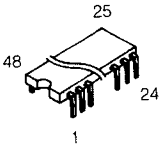
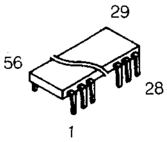
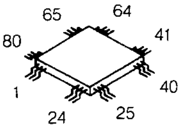
	TC74HC02AP
	BA10324
	LA7376ST
	LA7577L
	TA8872N
	OEC6018A
	LA7480
	TA8867N
	OEC0022A
 65 64 80 41 1 40 24 25	OEC0036A

MODEL: VX-T1400AE

SEMICONDUCTOR BASE CONNECTIONS

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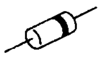
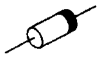
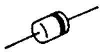
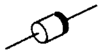
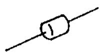
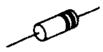
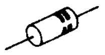
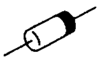
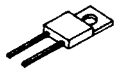
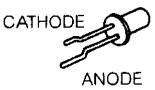
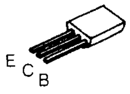
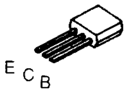
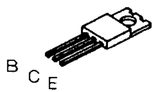
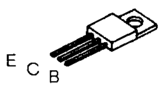
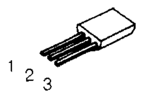
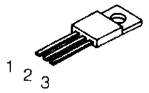
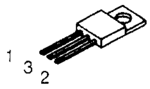
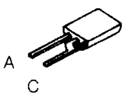
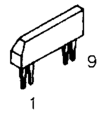
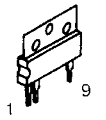
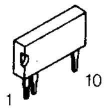
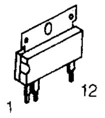
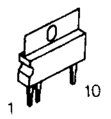
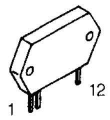
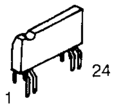
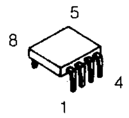
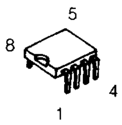
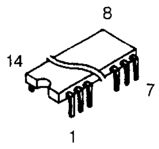
	RD6.8EB RD6.2EB RD9.1EB RD7.5EB 1S2472
	11E1TA1 11E2TA1 21DQ04FE5R RM11C R2M 1R5NU41
	1SS132 HZS6R8JB2 HZS5R6JB2
	10ELS6TA1 10ELS2TA1 11EQS04TA1
	MTZJ10C MTZJ13B MTZJ11
	DF005TG
	15DF6
	1S1585
	F5KF20
 CATHODE ANODE	SLZ-136C SLZ336B
	2SC3396 2SA1624 2SC945A 2SC2271 2SB892 2SC3000 2SA1371 2SC3468 2SA952 2SD734 2SD1111 2SC1317 2SB926 2SC536 2SB698 2SA984 2SA608 2SC2909
	DTA124E DTC143E DTA144E DTC124E DTA114E
	2SC4160
	2SD1554

ILLASTRATION	DESCRIPTION
	PST600F-2 PST600H
	L7805V L7812V AN7809F
	UPC78M09H
	UPC574J-T
	LA7910
	AN5265
	LA7210
	TA8445K
	BA6247
	STK730-060
	BA7790LS
	LA6358T LC89925
	ST24C02AB1
	TC74HC02AP

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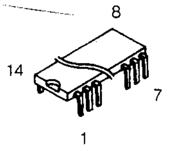
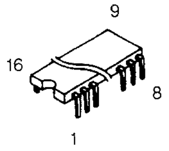
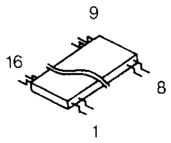
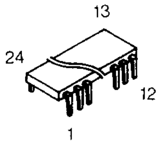
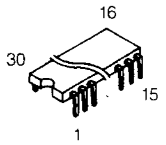
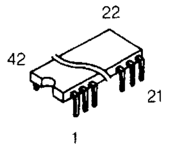
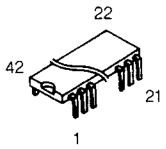
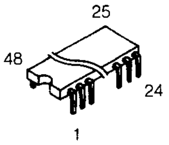
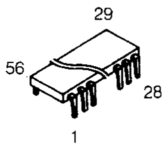
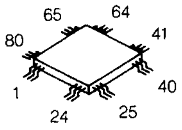
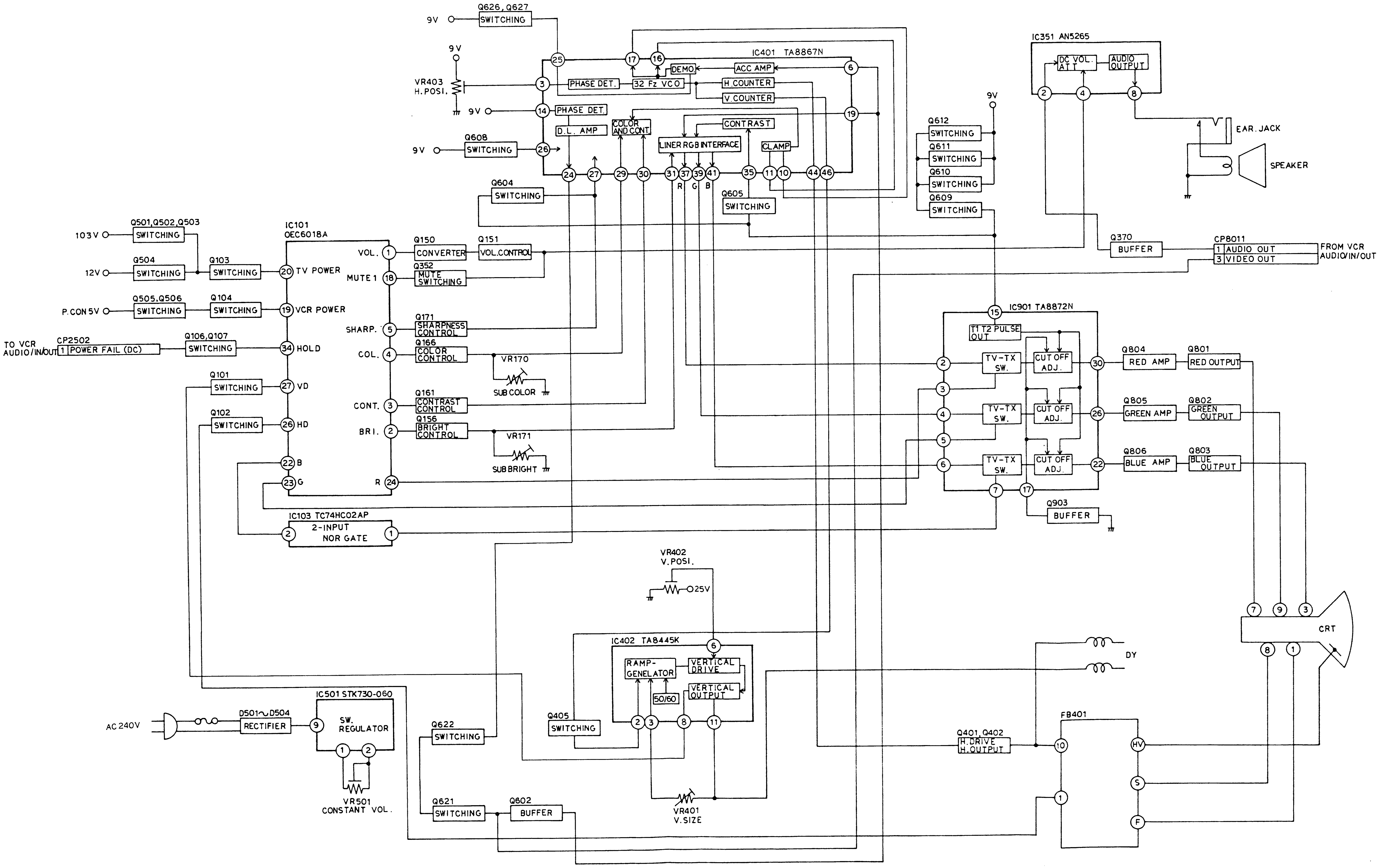
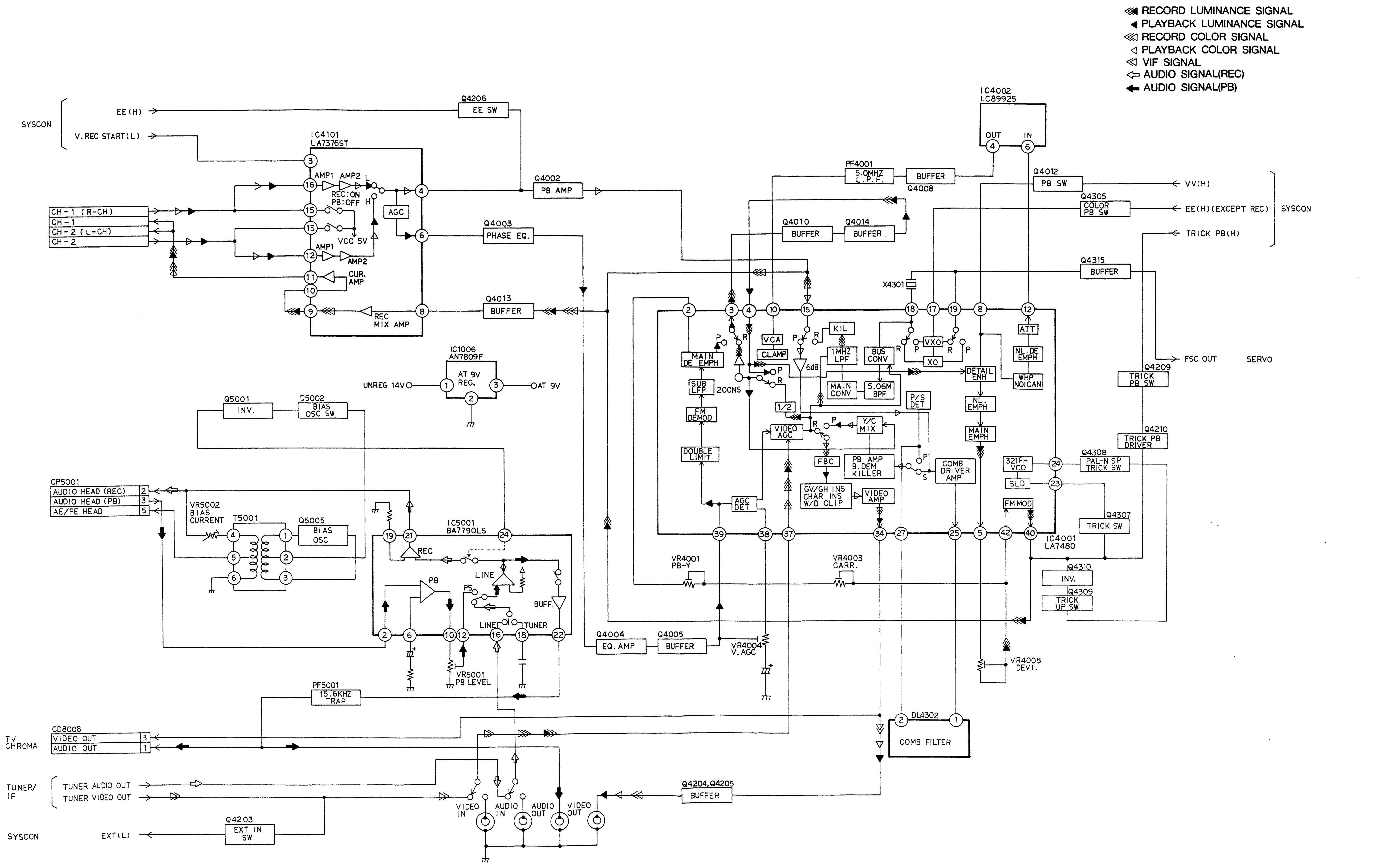
	BA10324
	LA7376ST
	BA7609F
	LA7577L
	TA8872N
	OEC6018A
	LA7480
	TA8867N
	OEC0022A
 65 64 80 41 1 40 24 25	OEC0036A

TV BLOCK DIAGRAM


Q626, Q627
SWITCHING
9V
IC401 TA8867N
DEMO.
ACC AMP
PHASE DET.
32 Fz VCO
H.COUNTER
V.COUNTER
PHASE DET.
D.L. AMP
COLOR AND CONT.
CONTRAST
LINER RGB INTERFACE
CLAMP
VR403
H.POSI.
Q608
SWITCHING
Q604
SWITCHING
Q605
SWITCHING
R
G
B
IC351 AN5265
DC VOL. ATT
AUDIO OUTPUT
EAR. JACK
SPEAKER
Q612
SWITCHING
Q611
SWITCHING
Q610
SWITCHING
Q609
SWITCHING
Q370
BUFFER
CP8011
1 AUDIO OUT
3 VIDEO OUT
FROM VCR AUDIO/IN/OUT
103V
Q501,Q502,Q503
SWITCHING
12V
Q504
SWITCHING
Q103
SWITCHING
P.CON 5V
Q505,Q506
SWITCHING
Q104
SWITCHING
TO VCR AUDIO/IN/OUT
CP2502
1 POWER FAIL (DC)
Q106,Q107
SWITCHING
Q101
SWITCHING
Q102
SWITCHING
IC101
OEC6018A
TV POWER
VCR POWER
HOLD
VD
HD
B
G
R
VOL.
MUTE 1
SHARP.
COL.
CONT.
BRI.
Q150
CONVERTER
Q151
VOL.CONTROL
Q352
MUTE SWITCHING
Q171
SHARPNESS CONTROL
Q166
COLOR CONTROL
VR170
SUB COLOR
Q161
CONTRAST CONTROL
Q156
BRIGHT CONTROL
VR171
SUB BRIGHT
IC103 TC74HC02AP
2-INPUT NOR GATE
IC901 TA8872N
T1 T2 PULSE OUT
TV-TX SW.
CUT OFF ADJ.
Q804
RED AMP
Q801
RED OUTPUT
Q805
GREEN AMP
Q802
GREEN OUTPUT
Q806
BLUE AMP
Q803
BLUE OUTPUT
Q903
BUFFER
VR402
V.POSI.
25V
IC402 TA8445K
RAMP-GENELATOR
VERTICAL DRIVE
VERTICAL OUTPUT
50/60
Q405
SWITCHING
VR401
V.SIZE
CRT
DY
AC 240V
D501～D504
RECTIFIER
IC501 STK730-060
SW. REGULATOR
VR501
CONSTANT VOL.
Q622
SWITCHING
Q621
SWITCHING
Q602
BUFFER
Q401, Q402
H.DRIVE
H.OUTPUT
FB401
HV
S
F

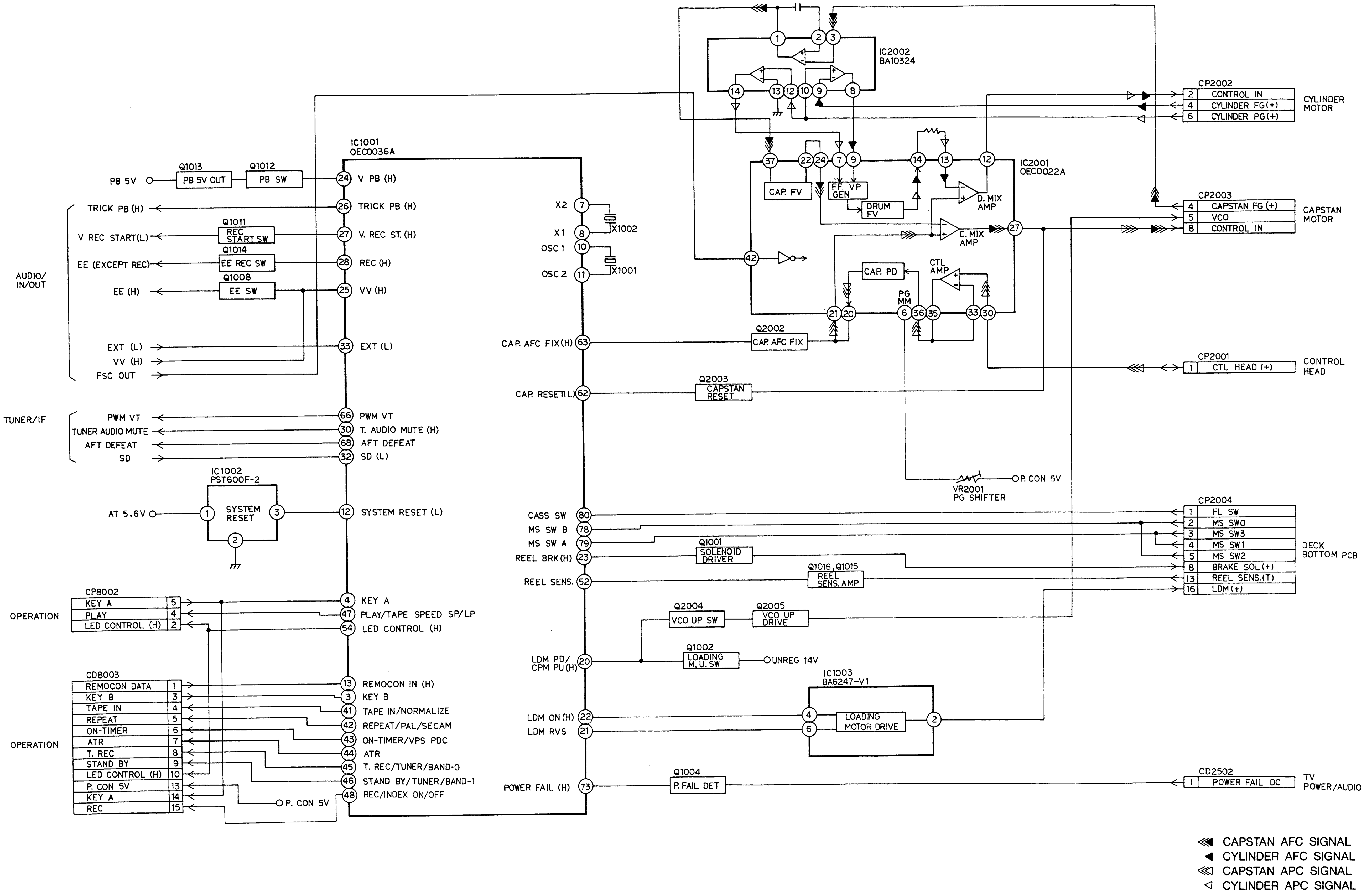
MODEL: VX-T1410K

VCR Y.C./HEAD AMP/AUDIO/IN/OUT BLOCK DIAGRAM

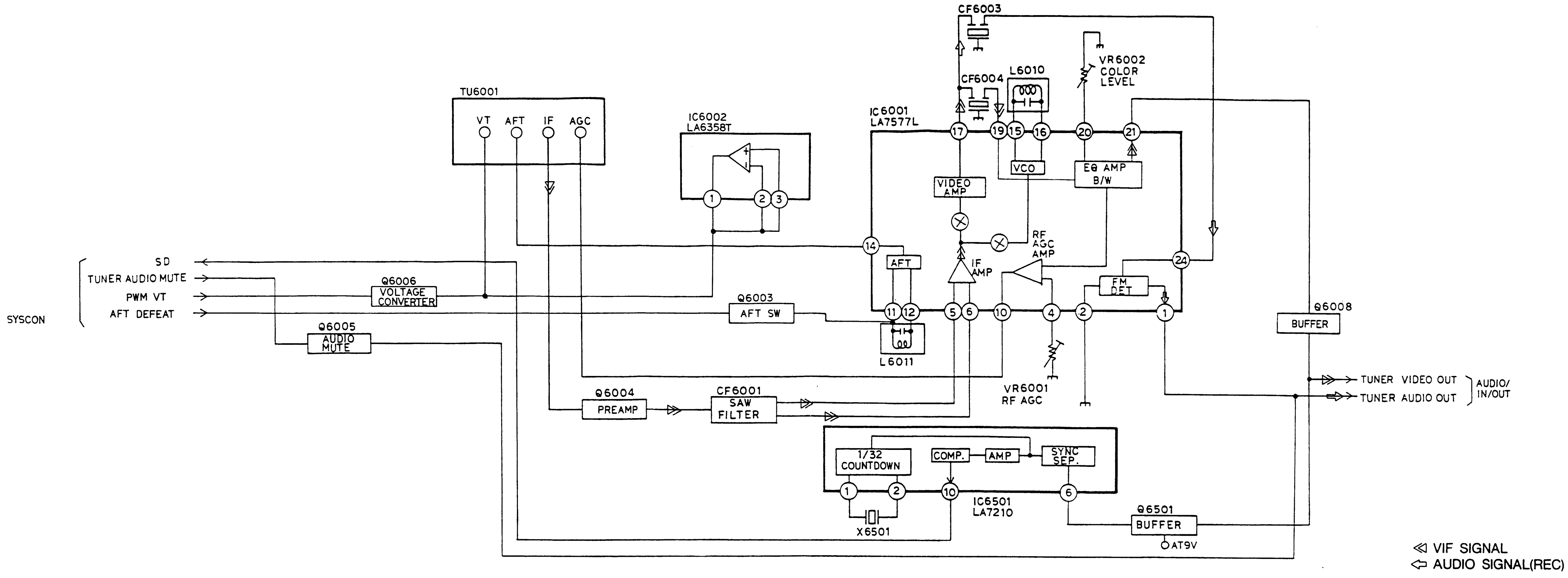


RECORD LUMINANCE SIGNAL
PLAYBACK LUMINANCE SIGNAL
RECORD COLOR SIGNAL
PLAYBACK COLOR SIGNAL
VIF SIGNAL
AUDIO SIGNAL(REC)
AUDIO SIGNAL(PB)
SYSCON
EE(H)
V.REC START(L)
Q4206
EE SW
IC4101
LA7376ST
AMP1
AMP2
REC:ON
PB:OFF
VCC 5V
AGC
CUR. AMP
REC MIX AMP
CH-1 (R-CH)
CH-1
CH-2 (L-CH)
CH-2
Q4002
PB AMP
Q4003
PHASE EQ.
Q4013
BUFFER
IC1006
AN7809F
AT 9V REG.
UNREG 14V
AT 9V
Q5001
INV.
Q5002
BIAS OSC SW
CP5001
AUDIO HEAD (REC)
AUDIO HEAD (PB)
AE/FE HEAD
VR5002
BIAS CURRENT
T5001
Q5005
BIAS OSC
IC5001
BA7790LS
REC
PB
LINE
PS
BUFF.
TUNER
VR5001
PB LEVEL
PF5001
15.6KHZ TRAP
CD8008
TV CHROMA
VIDEO OUT
AUDIO OUT
TUNER/IF
TUNER AUDIO OUT
TUNER VIDEO OUT
SYSCON
EXT(L)
Q4203
EXT IN SW
VIDEO IN
AUDIO IN
AUDIO OUT
VIDEO OUT
Q4204,Q4205
BUFFER
DL4302
COMB FILTER
Q4004
EQ. AMP
Q4005
BUFFER
VR4004
V.AGC
VR4001
PB-Y
VR4003
CARR.
VR4005
DEVI.
IC4002
LC89925
OUT
IN
PF4001
5.0MHZ L.P.F.
BUFFER
Q4008
Q4012
PB SW
VV(H)
Q4305
COLOR PB SW
EE(H)(EXCEPT REC)
SYSCON
TRICK PB(H)
Q4010
BUFFER
Q4014
BUFFER
Q4315
BUFFER
X4301
FSC OUT
SERVO
Q4209
TRICK PB SW
Q4210
TRICK PB DRIVER
Q4308
PAL-N SP TRICK SW
Q4307
TRICK SW
IC4001
LA7480
Q4310
INV.
Q4309
TRICK UP SW
MAIN DE EMPH
SUB LPF
FM DEMOD
DOUBLE LIMIT
AGC DET
200NS
VCA
CLAMP
6dB
1/2
VIDEO AGC
KIL
1MHZ LPF
BUS CONV
MAIN CONV
5.06M BPF
FBC
GV/GH INS CHAR INS W/D CLIP
PB AMP B.DEM KILLER
Y/C MIX
VIDEO AMP
P/S DET
COMB DRIVER AMP
VXO
XO
DETAIL ENH
NL EMPH
MAIN EMPH
ATT
NL DE EMPH
WHP NOICAN
321FH VCO
SLD
FM MOD

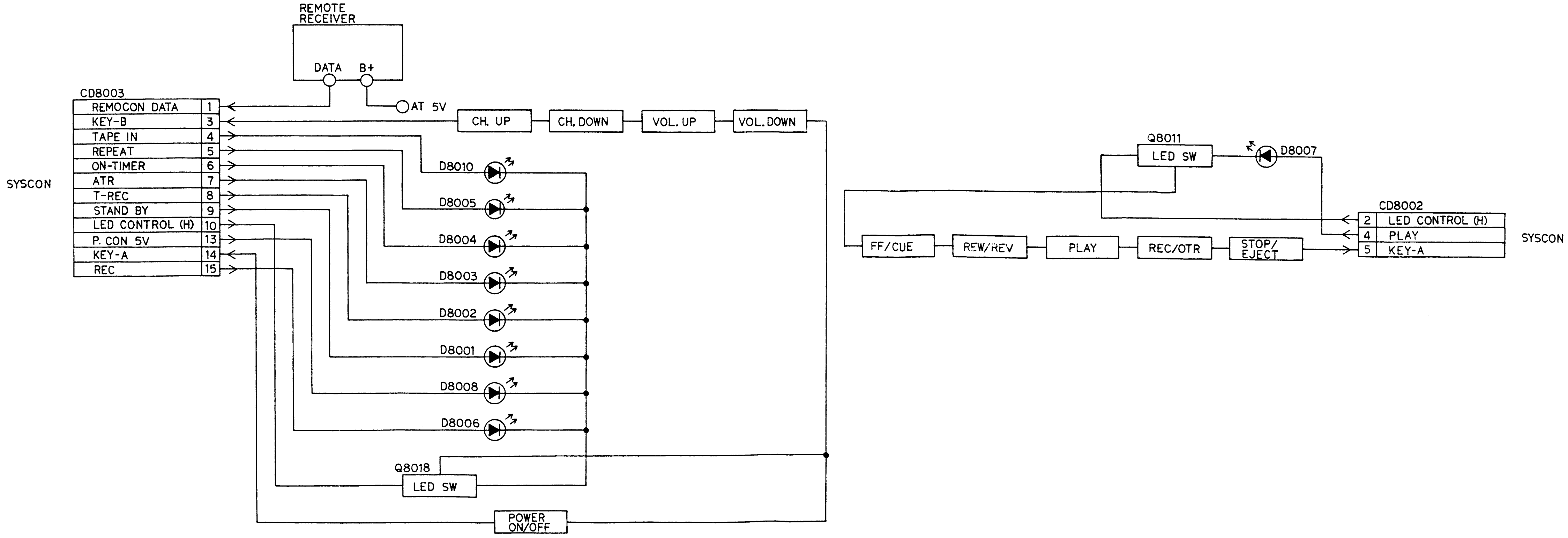
VCR SYSTEM CONTROL/SERVO BLOCK DIAGRAM


IC2002
BA10324
CP2002
CONTROL IN
CYLINDER FG(+)
CYLINDER PG(+)
CYLINDER MOTOR
IC1001
OEC0036A
Q1013
PB 5V OUT
Q1012
PB SW
PB 5V
V PB (H)
TRICK PB (H)
Q1011
REC START SW
V REC START(L)
V. REC ST. (H)
Q1014
EE REC SW
EE (EXCEPT REC)
REC (H)
Q1008
EE SW
EE (H)
VV (H)
AUDIO/IN/OUT
EXT (L)
VV (H)
FSC OUT
X2
X1
OSC 1
OSC 2
X1002
X1001
IC2001
OEC0022A
CAP. FV
FF. VP GEN
DRUM FV
D. MIX AMP
C. MIX AMP
CAP. PD
CTL AMP
PG MM
CP2003
CAPSTAN FG (+)
VCO
CONTROL IN
CAPSTAN MOTOR
Q2002
CAP. AFC FIX
CAP. AFC FIX(H)
CP2001
CTL HEAD (+)
CONTROL HEAD
Q2003
CAPSTAN RESET
CAP. RESET(L)
TUNER/IF
PWM VT
TUNER AUDIO MUTE
T. AUDIO MUTE (H)
AFT DEFEAT
SD
SD (L)
VR2001
PG SHIFTER
P. CON 5V
IC1002
PST600F-2
SYSTEM RESET
AT 5.6V
SYSTEM RESET (L)
CP2004
FL SW
MS SW0
MS SW3
MS SW1
MS SW2
BRAKE SOL (+)
REEL SENS.(T)
LDM (+)
DECK BOTTOM PCB
CASS SW
MS SW B
MS SW A
REEL BRK(H)
Q1001
SOLENOID DRIVER
Q1016, Q1015
REEL SENS. AMP
REEL SENS.
CP8002
KEY A
PLAY
LED CONTROL (H)
OPERATION
KEY A
PLAY/TAPE SPEED SP/LP
LED CONTROL (H)
Q2004
VCO UP SW
Q2005
VCO UP DRIVE
Q1002
LOADING M. U. SW
UNREG 14V
LDM PD/CPM PU(H)
IC1003
BA6247-V1
LOADING MOTOR DRIVE
LDM ON (H)
LDM RVS
CD8003
REMOCON DATA
KEY B
TAPE IN
REPEAT
ON-TIMER
ATR
T. REC
STAND BY
LED CONTROL (H)
P. CON 5V
KEY A
REC
OPERATION
REMOCON IN (H)
KEY B
TAPE IN/NORMALIZE
REPEAT/PAL/SECAM
ON-TIMER/VPS PDC
ATR
T. REC/TUNER/BAND-0
STAND BY/TUNER/BAND-1
REC/INDEX ON/OFF
P. CON 5V
Q1004
P. FAIL DET
POWER FAIL (H)
CD2502
POWER FAIL DC
TV POWER/AUDIO
⋘ CAPSTAN AFC SIGNAL
◀ CYLINDER AFC SIGNAL
⋘ CAPSTAN APC SIGNAL
◁ CYLINDER APC SIGNAL

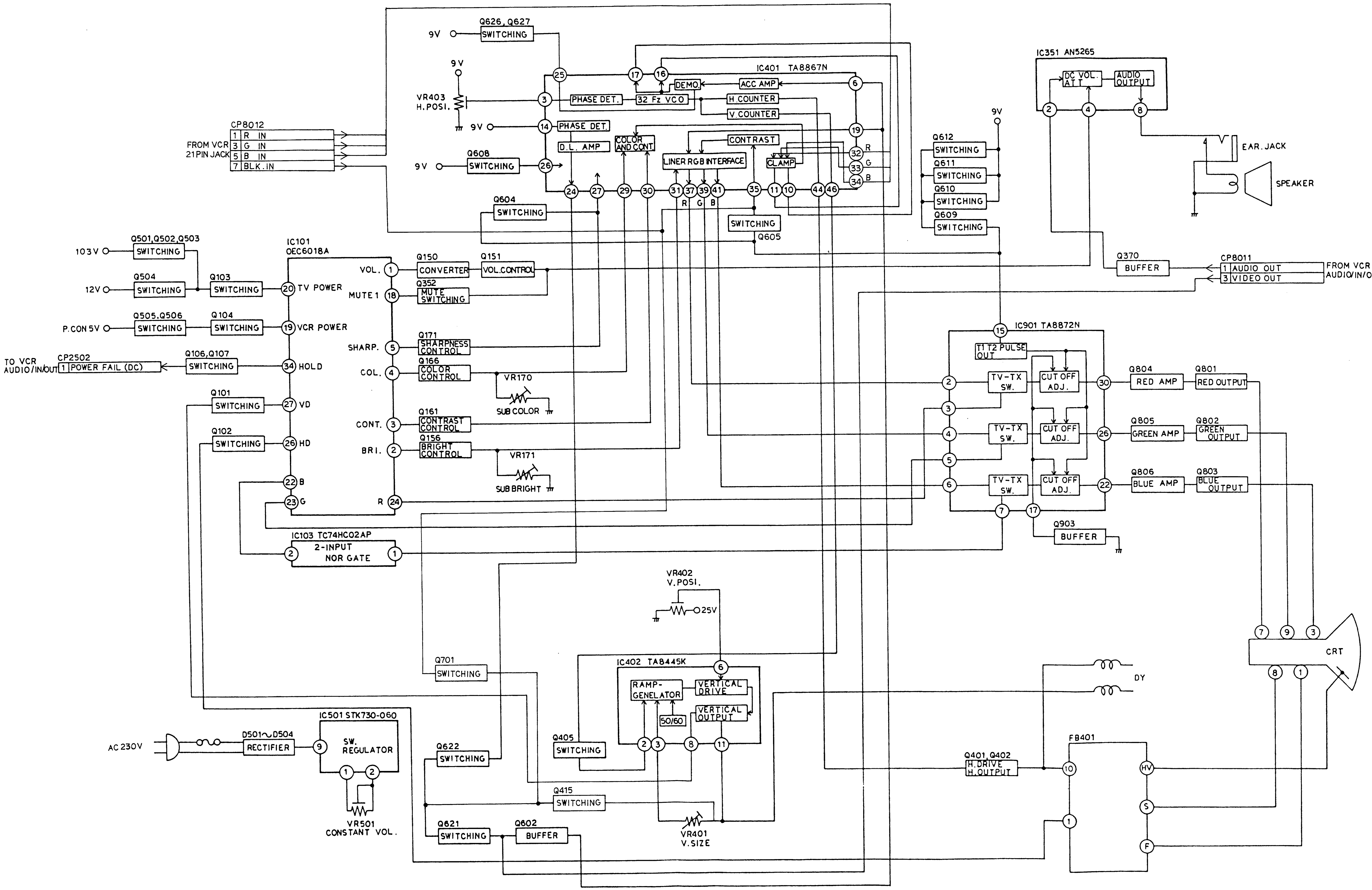
VCR TUNER/IF BLOCK DIAGRAM


CF6003
CF6004
L6010
VR6002
COLOR
LEVEL
TU6001
VT
AFT
IF
AGC
IC6002
LA6358T
IC6001
LA7577L
17
19
15
16
20
21
VIDEO
AMP
VCO
EQ AMP
B/W
RF
AGC
AMP
IF
AMP
AFT
FM
DET
14
24
11
12
5
6
10
4
2
1
SYSCON
SD
TUNER AUDIO MUTE
PWM VT
AFT DEFEAT
Q6006
VOLTAGE
CONVERTER
Q6003
AFT SW
Q6005
AUDIO
MUTE
L6011
VR6001
RF AGC
Q6008
BUFFER
TUNER VIDEO OUT
TUNER AUDIO OUT
AUDIO/
IN/OUT
Q6004
PREAMP
CF6001
SAW
FILTER
1/32
COUNTDOWN
COMP.
AMP
SYNC
SEP.
IC6501
LA7210
X6501
Q6501
BUFFER
AT9V
VIF SIGNAL
AUDIO SIGNAL(REC)

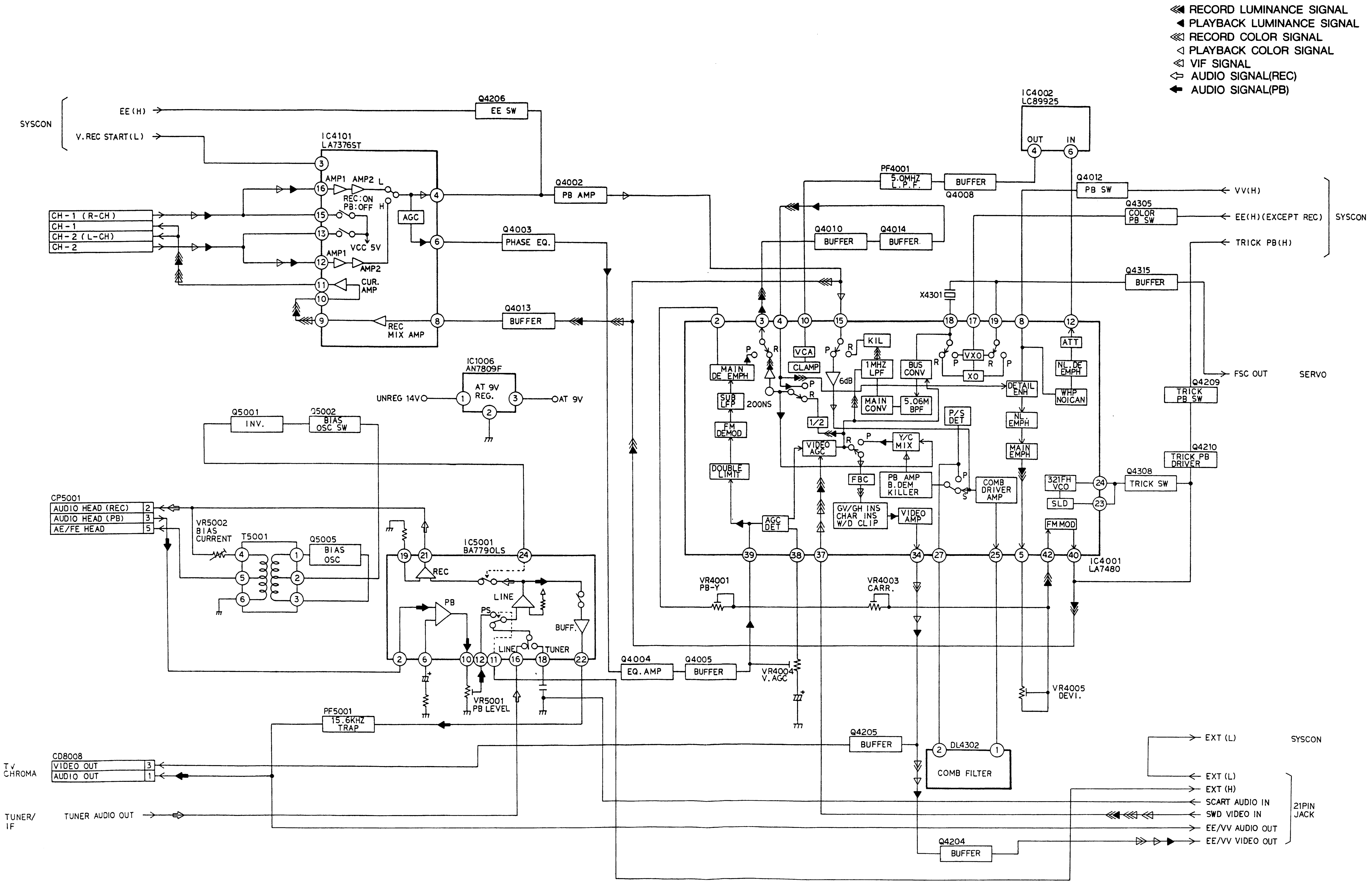
VCR OPERATION 1/2 BLOCK DIAGRAM


REMOTE
RECEIVER
DATA
B+
AT 5V
CD8003
REMOCON DATA 1
KEY-B 3
TAPE IN 4
REPEAT 5
ON-TIMER 6
ATR 7
T-REC 8
STAND BY 9
LED CONTROL (H) 10
P. CON 5V 13
KEY-A 14
REC 15
SYSCON
CH. UP
CH. DOWN
VOL. UP
VOL. DOWN
D8010
D8005
D8004
D8003
D8002
D8001
D8008
D8006
Q8018
LED SW
POWER
ON/OFF
Q8011
LED SW
D8007
CD8002
2 LED CONTROL (H)
4 PLAY
5 KEY-A
SYSCON
FF/CUE
REW/REV
PLAY
REC/OTR
STOP/
EJECT

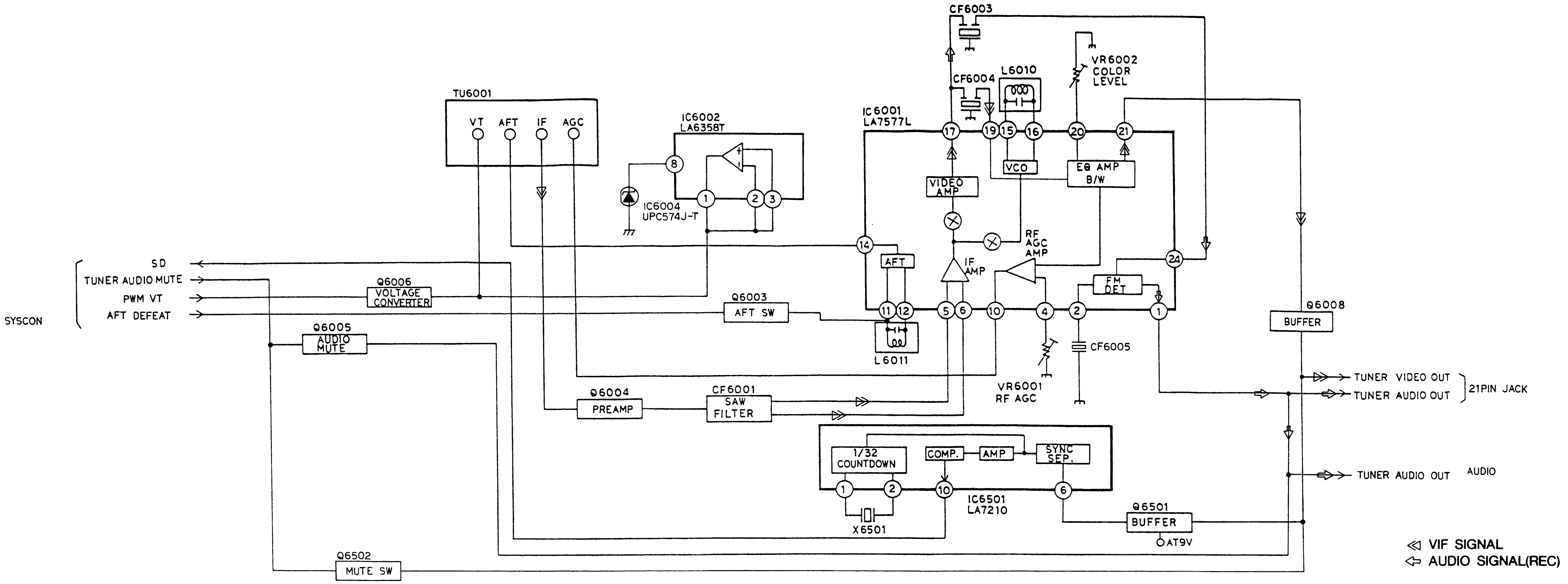
TV BLOCK DIAGRAM


Q626, Q627
SWITCHING
9V
VR403
H.POSI.
IC401 TA8867N
DEMO.
ACC AMP
PHASE DET.
32 Fz VCO
H.COUNTER
V.COUNTER
PHASE DET.
D.L. AMP
COLOR AND CONT.
CONTRAST
LINER RGB INTERFACE
CLAMP
Q608
SWITCHING
Q604
SWITCHING
SWITCHING
Q605
R G B
CP8012
1 R IN
3 G IN
5 B IN
7 BLK.IN
FROM VCR 21PIN JACK
Q501, Q502, Q503
SWITCHING
103V
Q504
SWITCHING
12V
Q103
SWITCHING
Q505, Q506
SWITCHING
P.CON 5V
Q104
SWITCHING
TO VCR AUDIO/IN/OUT
CP2502
1 POWER FAIL (DC)
Q106, Q107
SWITCHING
Q101
SWITCHING
Q102
SWITCHING
IC101
OEC6018A
VOL.
MUTE 1
TV POWER
VCR POWER
HOLD
VD
HD
B
G
R
SHARP.
COL.
CONT.
BRI.
Q150
CONVERTER
Q151
VOL.CONTROL
Q352
MUTE SWITCHING
Q171
SHARPNESS CONTROL
Q166
COLOR CONTROL
VR170
SUB COLOR
Q161
CONTRAST CONTROL
Q156
BRIGHT CONTROL
VR171
SUB BRIGHT
IC103 TC74HC02AP
2-INPUT NOR GATE
IC351 AN5265
DC VOL. ATT
AUDIO OUTPUT
EAR.JACK
SPEAKER
Q612
SWITCHING
Q611
SWITCHING
Q610
SWITCHING
Q609
SWITCHING
Q370
BUFFER
CP8011
1 AUDIO OUT
3 VIDEO OUT
FROM VCR AUDIO/IN/OUT
IC901 TA8872N
T1 T2 PULSE OUT
TV-TX SW.
CUT OFF ADJ.
Q903
BUFFER
Q804
RED AMP
Q801
RED OUTPUT
Q805
GREEN AMP
Q802
GREEN OUTPUT
Q806
BLUE AMP
Q803
BLUE OUTPUT
CRT
DY
VR402
V.POSI.
25V
IC402 TA8445K
RAMP-GENELATOR
VERTICAL DRIVE
VERTICAL OUTPUT
50/60
Q701
SWITCHING
Q405
SWITCHING
Q415
SWITCHING
VR401
V.SIZE
Q622
SWITCHING
Q621
SWITCHING
Q602
BUFFER
IC501 STK730-060
SW. REGULATOR
AC 230V
D501~D504
RECTIFIER
VR501
CONSTANT VOL.
Q401, Q402
H.DRIVE H.OUTPUT
FB401
HV
S
F

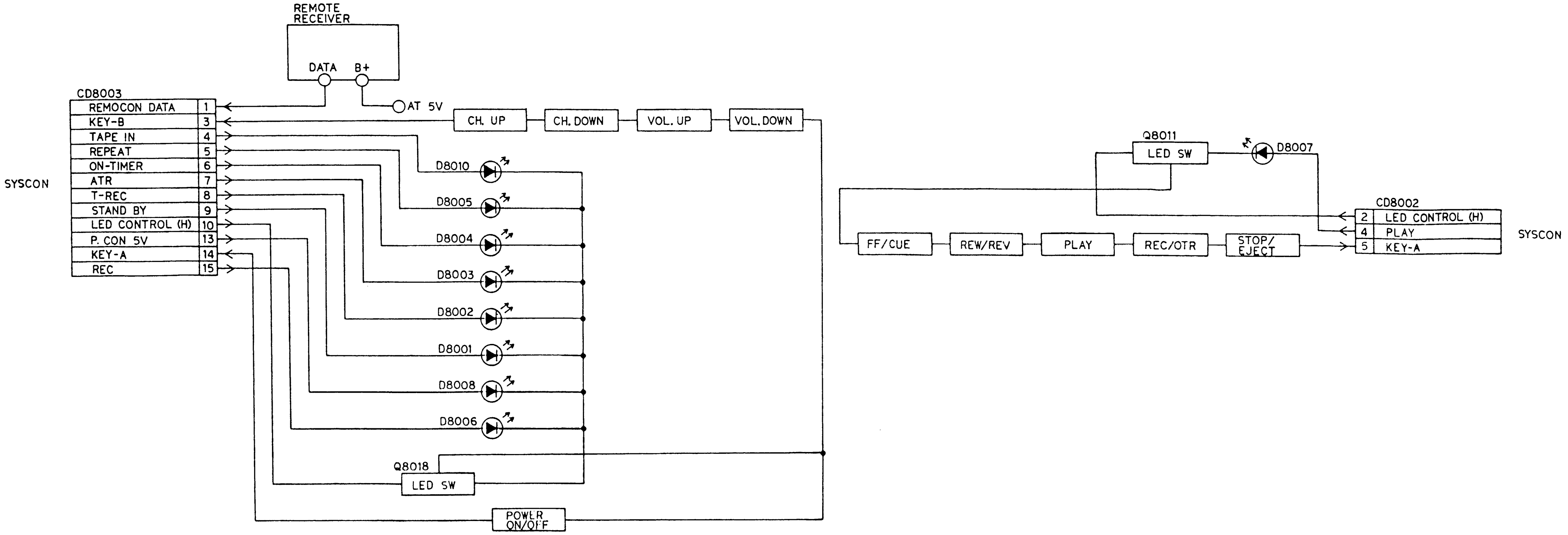
VCR Y.C./HEAD AMP/AUDIO BLOCK DIAGRAM


RECORD LUMINANCE SIGNAL
PLAYBACK LUMINANCE SIGNAL
RECORD COLOR SIGNAL
PLAYBACK COLOR SIGNAL
VIF SIGNAL
AUDIO SIGNAL(REC)
AUDIO SIGNAL(PB)
SYSCON
EE(H)
V.REC START(L)
Q4206
EE SW
IC4101
LA7376ST
AMP1
AMP2
REC:ON
PB:OFF
VCC 5V
AGC
CUR. AMP
REC MIX AMP
CH-1 (R-CH)
CH-1
CH-2 (L-CH)
CH-2
Q4002
PB AMP
Q4003
PHASE EQ.
Q4013
BUFFER
IC1006
AN7809F
UNREG 14V
AT 9V REG.
AT 9V
Q5001
INV.
Q5002
BIAS OSC SW
CP5001
AUDIO HEAD (REC)
AUDIO HEAD (PB)
AE/FE HEAD
VR5002
BIAS CURRENT
T5001
Q5005
BIAS OSC
IC5001
BA7790LS
REC
PB
LINE
PS
BUFF.
TUNER
VR5001
PB LEVEL
PF5001
15.6KHZ TRAP
CD8008
VIDEO OUT
AUDIO OUT
TV CHROMA
TUNER/IF
TUNER AUDIO OUT
Q4004
EQ. AMP
Q4005
BUFFER
VR4004
V. AGC
PF4001
5.0MHZ L.P.F.
BUFFER
Q4008
IC4002
LC89925
OUT
IN
Q4010
BUFFER
Q4014
BUFFER.
Q4012
PB SW
Q4305
COLOR PB SW
VV(H)
EE(H)(EXCEPT REC)
TRICK PB(H)
SYSCON
Q4315
BUFFER
X4301
MAIN DE EMPH
SUB LPF
200NS
FM DEMOD
DOUBLE LIMIT
AGC DET
VCA
CLAMP
6dB
1/2
VIDEO AGC
KIL
1MHZ LPF
BUS CONV
MAIN CONV
5.06M BPF
VXO
XO
FBC
Y/C MIX
PB AMP B.DEM KILLER
GV/GH INS CHAR INS W/D CLIP
VIDEO AMP
P/S DET
COMB DRIVER AMP
DETAIL ENH
NL. EMPH
MAIN EMPH
ATT
NL. DE EMPH
WHP NOICAN
321FH VCO
SLD
FM MOD
IC4001
LA7480
VR4001
PB-Y
VR4003
CARR.
VR4005
DEVI.
FSC OUT
SERVO
Q4209
TRICK PB SW
Q4210
TRICK PB DRIVER
Q4308
TRICK SW
Q4205
BUFFER
DL4302
COMB FILTER
Q4204
BUFFER
EXT (L)
EXT (L)
EXT (H)
SCART AUDIO IN
SWD VIDEO IN
EE/VV AUDIO OUT
EE/VV VIDEO OUT
21PIN JACK
SYSCON

VCR TUNER/IF BLOCK DIAGRAM

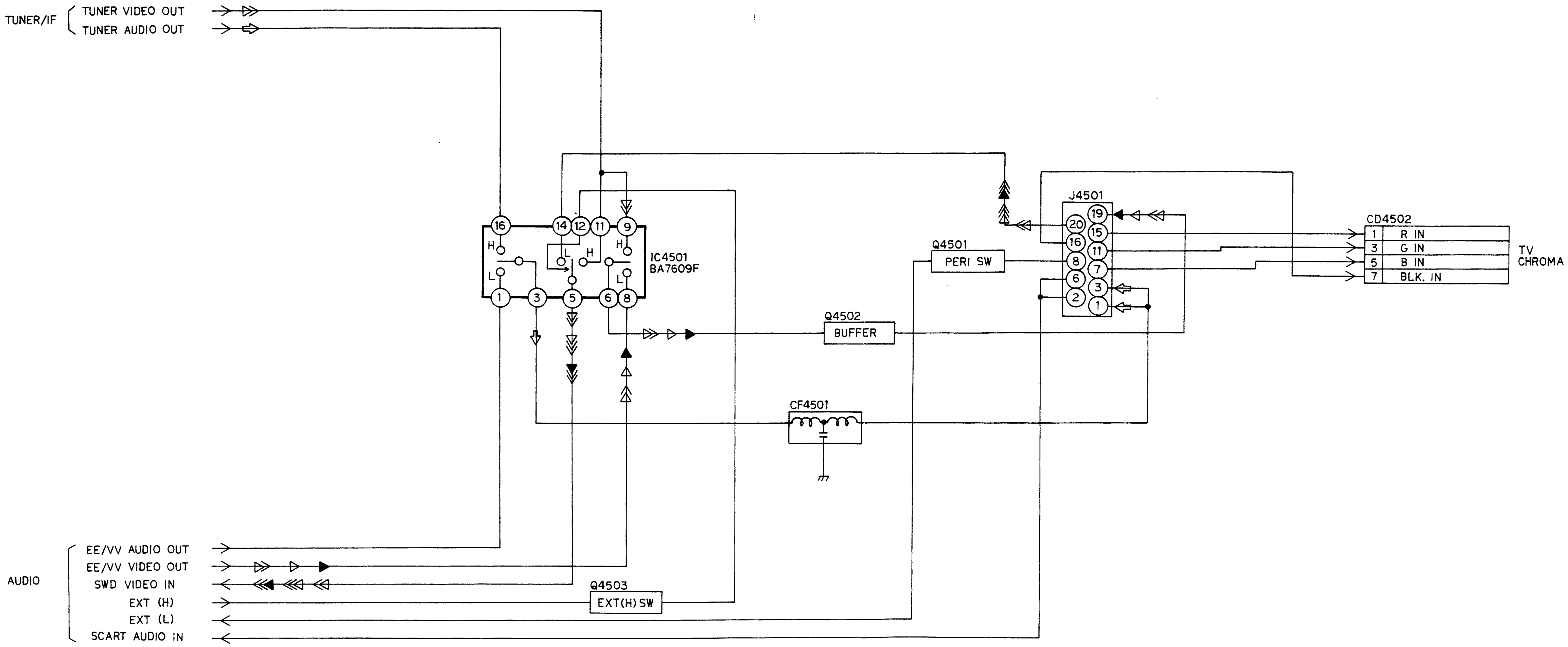

CF6003
CF6004
L6010
VR6002 COLOR LEVEL
TU6001
VT
AFT
IF
AGC
IC6002 LA6358T
IC6004 UPC574J-T
IC6001 LA7577L
VIDEO AMP
VCO
EQ AMP B/W
RF AGC AMP
IF AMP
AFT
FM DET
SYSCON
SD
TUNER AUDIO MUTE
PWM VT
AFT DEFEAT
Q6006 VOLTAGE CONVERTER
Q6003 AFT SW
Q6005 AUDIO MUTE
L6011
VR6001 RF AGC
CF6005
Q6008 BUFFER
TUNER VIDEO OUT
TUNER AUDIO OUT
21PIN JACK
Q6004 PREAMP
CF6001 SAW FILTER
1/32 COUNTDOWN
COMP.
AMP
SYNC SEP.
IC6501 LA7210
X6501
Q6501 BUFFER
AT9V
TUNER AUDIO OUT
AUDIO
Q6502 MUTE SW
VIF SIGNAL
AUDIO SIGNAL(REC)

VCR OPERATION 1/2 BLOCK DIAGRAM


REMOTE RECEIVER
DATA
B+
AT 5V
CD8003
1 REMOCON DATA
3 KEY-B
4 TAPE IN
5 REPEAT
6 ON-TIMER
7 ATR
8 T-REC
9 STAND BY
10 LED CONTROL (H)
13 P. CON 5V
14 KEY-A
15 REC
SYSCON
CH. UP
CH. DOWN
VOL. UP
VOL. DOWN
D8010
D8005
D8004
D8003
D8002
D8001
D8008
D8006
Q8018 LED SW
POWER ON/OFF
Q8011 LED SW
D8007
FF/CUE
REW/REV
PLAY
REC/OTR
STOP/EJECT
CD8002
2 LED CONTROL (H)
4 PLAY
5 KEY-A
SYSCON

MODEL: VX-T1400AE

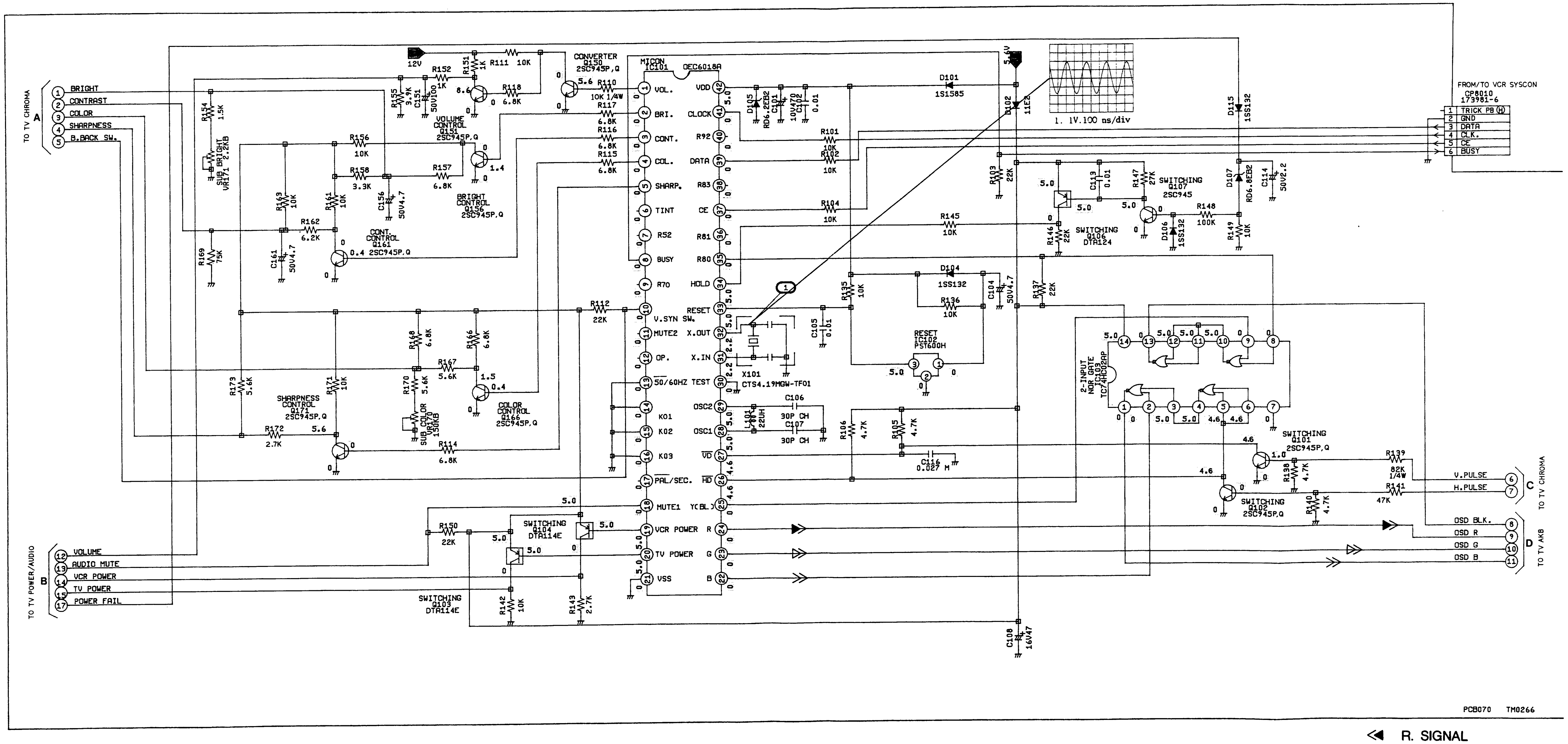
VCR 21PIN JACK BLOCK DIAGRAM


TUNER/IF
TUNER VIDEO OUT
TUNER AUDIO OUT
16
14
12
11
9
H
L
1
3
5
6
8
IC4501
BA7609F
Q4501
PERI SW
Q4502
BUFFER
CF4501
J4501
19
20
15
16
11
8
7
6
3
2
1
CD4502
1
R IN
3
G IN
5
B IN
7
BLK. IN
TV
CHROMA
AUDIO
EE/VV AUDIO OUT
EE/VV VIDEO OUT
SWD VIDEO IN
EXT (H)
EXT (L)
SCART AUDIO IN
Q4503
EXT(H) SW

⋘ RECORD LUMINANCE SIGNAL
◀ PLAYBACK LUMINANCE SIGNAL
⋘ RECORD COLOR SIGNAL
◁ PLAYBACK COLOR SIGNAL
≪ VIF SIGNAL
⇦ AUDIO SIGNAL(REC)

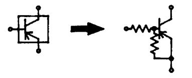
MODEL: VX-T1410K

TV MICON SCHEMATIC DIAGRAM


TO TV CHROMA
A
1 BRIGHT
2 CONTRAST
3 COLOR
4 SHARPNESS
5 B.BACK SW.
12V
R152 1K
R151 1K
R111 10K
R155 3.9K
C151 50V100
8.6
R118 6.8K
VOLUME CONTROL Q151 2SC945P,Q
CONVERTER Q150 2SC945P,Q
5.6 R110 10K 1/4W
R154 1.5K
SUB BRIGHT VR171 2.2KB
R156 10K
R158 3.3K
C156 50V4.7
R157 6.8K
1.4
BRIGHT CONTROL Q156 2SC945P,Q
R163 10K
R161 10K
R162 6.2K
CONT. CONTROL Q161 0.4 2SC945P,Q
R169 75K
C161 50V4.7
R117 6.8K
R116 6.8K
R115 6.8K
MICON IC101 OEC6018A
1 VOL.
2 BRI.
3 CONT.
4 COL.
5 SHARP.
6 TINT
7 R52
8 BUSY
9 R70
10 V.SYN SW.
11 MUTE2
12 OP.
13 50/60HZ TEST
14 K01
15 K02
16 K03
17 PAL/SEC.
18 MUTE1
19 VCR POWER
20 TV POWER
21 VSS
42 VDD
41 CLOCK
40 R92
39 DATA
38 R83
37 CE
36 R81
35 R80
34 HOLD
33 RESET
32 X.OUT
31 X.IN
30 TEST
29 OSC2
28 OSC1
27 VD
26 HD
25 YCBL.
24 R
23 G
22 B
R112 22K
R148 6.8K
R166 6.8K
R167 5.6K
1.5
R170 5.6K
SUB COLOR VR170 150KB
0.4
COLOR CONTROL Q166 2SC945P,Q
R173 5.6K
R171 10K
SHARPNESS CONTROL Q171 2SC945P,Q
R172 2.7K
5.6
R114 6.8K
D105 RD6.2EB2
C101 10V470
C102 0.01
D101 1SS85
R101 10K
R102 10K
R104 10K
R145 10K
D104 1SS132
R136 10K
C104 50V4.7
R135 10K
C105 0.01
RESET IC102 PST600H
X101 CTS4.19MGW-TF01
C106 30P CH
C107 30P CH
L101 22UH
R106 4.7K
R105 4.7K
C116 0.027 M
5.6V
D102 11E2
R103 22K
C108 16V47
1. 1V.100 ns/div
D115 1SS132
D107 RD6.8EB2
C114 50V2.2
C113 0.01
R147 27K
SWITCHING Q107 2SC945
R148 100K
R149 10K
D106 1SS132
R146 22K
SWITCHING Q106 DTA124
R137 22K
2-INPUT NOR GATE IC103 TC74HC02AP
SWITCHING Q101 2SC945P,Q
SWITCHING Q102 2SC945P,Q
R138 4.7K
R140 4.7K
R139 82K 1/4W
R141 47K
FROM/TO VCR SYSCON CP8010 173981-6
1 TRICK PB (H)
2 GND
3 DATA
4 CLK.
5 CE
6 BUSY
V.PULSE 6
H.PULSE 7
C TO TV CHROMA
OSD BLK. 8
OSD R 9
OSD G 10
OSD B 11
D TO TV AK8
TO TV POWER/AUDIO
B
12 VOLUME
13 AUDIO MUTE
14 VCR POWER
15 TV POWER
17 POWER FAIL
R150 22K
SWITCHING Q104 DTA114E
SWITCHING Q103 DTA114E
R142 10K
R143 2.7K
PCB070 TM0266

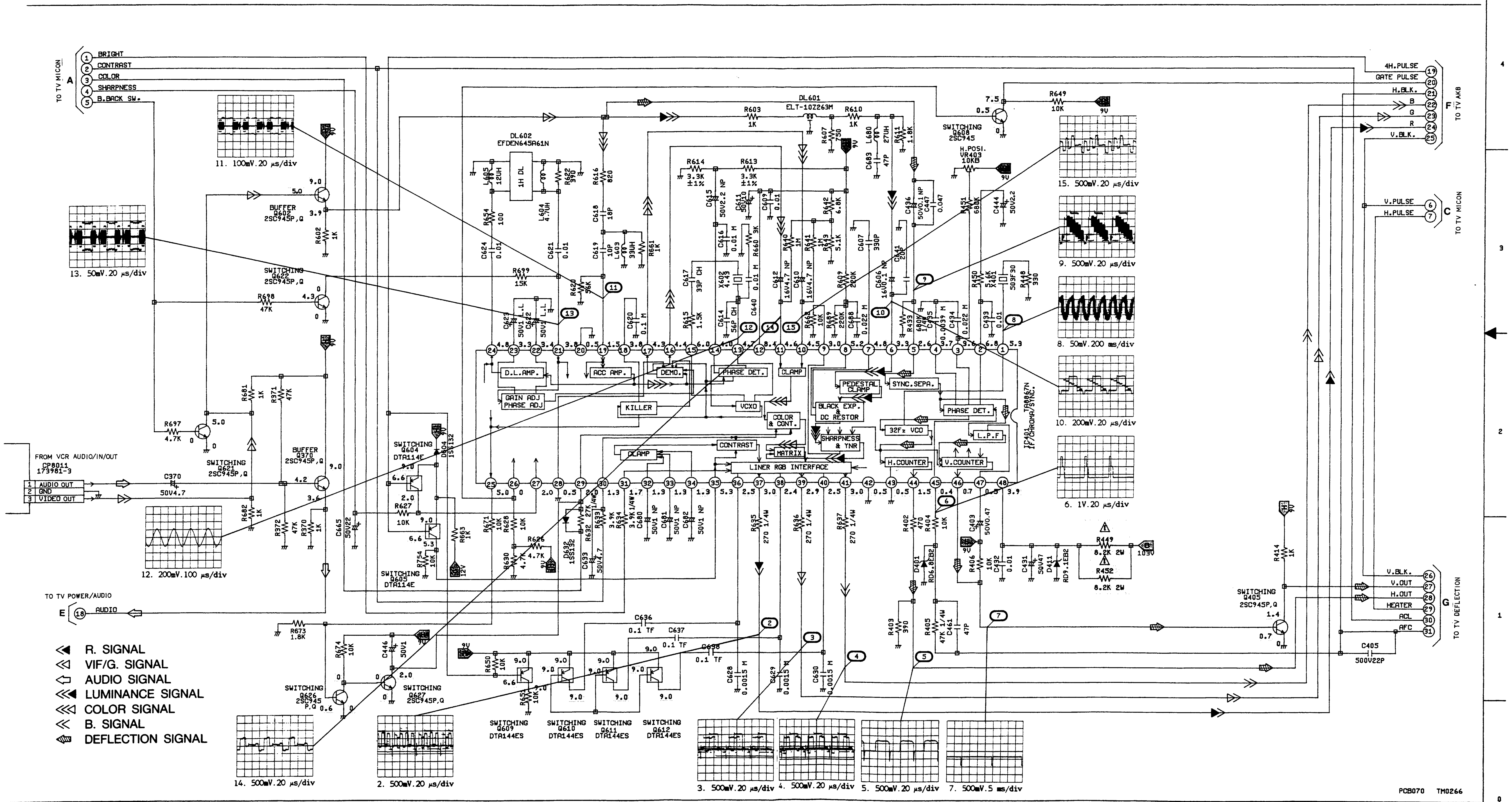
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.
THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE PAL COLOR BROADCAST WAS RECEIVED IN THE GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR



⋘ R. SIGNAL
⋘ G. SIGNAL
≪ B. SIGNAL

TV CHROMA SCHEMATIC DIAGRAM

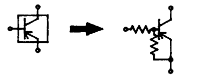

TO TV MICON
A
1 BRIGHT
2 CONTRAST
3 COLOR
4 SHARPNESS
5 B.BACK SW.
11. 100mV.20 µs/div
13. 50mV.20 µs/div
BUFFER Q602 2SC945P,Q
SWITCHING Q622 2SC945P,Q
R602 1K
R698 47K
R697 4.7K
R681 1K
R371 47K
SWITCHING Q621 2SC945P,Q
BUFFER Q370 2SC945P,Q
FROM VCR AUDIO/IN/OUT CP8011 173981-3
1 AUDIO OUT
2 GND
3 VIDEO OUT
C370 50V4.7
R682 1K
R372 47K
R370 1K
C665 50V22
12. 200mV.100 µs/div
TO TV POWER/AUDIO
E 18 AUDIO
R673 1.8K
DL602 EFDEN645A61N
1H DL
L605 12UH
R654 100
L604 4.7UH
R622 390
R616 820
C618 18P
C619 10P
L603 33UH
R661 1K
C624 0.01
C621 0.01
R699 15K
R620 56K
C623 50V1 L.L
C622 50V1 L.L
C620 0.1 M
R614 3.9K ±1%
R613 3.3K ±1%
C615 50V2.2 NP
C611 50V10
C609 0.01
C616 0.01 M
R660 3K
C617 33P CH
X602 4.43
C614 56P CH
C640 0.01 M
R615 1.5K
R603 1K
DL601 ELT-10Z263M
R610 1K
R607 750
L680 27UH
R611 1.8K
C683 47P
R640 1M
R641 1M
R643 5.1K
R642 6.8K
C607 330P
C612 16V4.7 NP
C610 16V4.7 NP
R609 220K
R663 10K
R649 220K
C608 0.022 M
C606 16V0.1 NP
C641 200P
C636 50V0.1 NP
C447 0.047
R433 680
C435 0.039 M
C434 0.022 M
C433 0.01
SWITCHING Q608 2SC945
H.POSI. VR403 10KB
R649 10K
R451 680K
C444 50V2.2
R450 5.6K
X401 503F30
R448 330
D.L. AMP.
GAIN ADJ PHASE ADJ
ACC AMP.
DEMO.
PHASE DET.
CLAMP
KILLER
VCXO
COLOR & CONT.
PEDESTAL CLAMP
SYNC.SEPA.
BLACK EXP. & DC RESTOR
PHASE DET.
SHARPNESS & YNR
32F_H VCO
L.P.F
CONTRAST
MATRIX
CLAMP
LINER RGB INTERFACE
H.COUNTER
V.COUNTER
IC401 TA8867N IF/CHROMA/SYNC.
SWITCHING Q604 DTA114E
D604 1SS132
R627 10K
SWITCHING Q605 DTA114E
R754 10K
R683 1K
C685 12V
R671 10K
R628 10K
R629 10K
R630 4.7K
R626 4.7K
D632 1SS132
R632 27K
C633 50V4.7
R633 1/4W
R634 3.9K
C680 3.9K 1/4W
C681 50V1 NP
C682 50V1 NP
R635 270 1/4W
R636 270 1/4W
R637 270 1/4W
R402 470
R404 10K
C403 50V0.47
R406 10K
C432 0.01
D401 RD6.8EB2
C431 50V47
D411 RD9.1EB2
R449 8.2K 2W
R452 8.2K 2W
110V
R403 390
R405 47K 1/4W
C461 47P
C636 0.1 TF
C637 0.1 TF
C638 0.1 TF
C628 0.0015 M
C629 0.0015 M
C630 0.0015 M
R674 10K
C446 50V1
SWITCHING Q626 2SC945 P.Q
SWITCHING Q627 2SC945P,Q
R650 10K
R651 10K
SWITCHING Q609 DTA144ES
SWITCHING Q610 DTA144ES
SWITCHING Q611 DTA144ES
SWITCHING Q612 DTA144ES
14. 500mV.20 µs/div
2. 500mV.20 µs/div
3. 500mV.20 µs/div
4. 500mV.20 µs/div
5. 500mV.20 µs/div
7. 500mV.5 ms/div
15. 500mV.20 µs/div
9. 500mV.20 µs/div
8. 50mV.200 ns/div
10. 200mV.20 µs/div
6. 1V.20 µs/div
4H.PULSE 19
GATE PULSE 20
H.BLK. 21
B 22
G 23
R 24
V.BLK. 25
F TO TV AKB
V.PULSE 6
H.PULSE 7
C TO TV MICON
R414 1K
SWITCHING Q405 2SC945P,Q
C405 500V22P
V.BLK. 26
V.OUT 27
H.OUT 28
HEATER 29
ACL 30
AFC 31
G TO TV DEFLECTION
◀ R. SIGNAL
◁ VIF/G. SIGNAL
⇦ AUDIO SIGNAL
⋘ LUMINANCE SIGNAL
⋘ COLOR SIGNAL
≪ B. SIGNAL
⇚ DEFLECTION SIGNAL

PCB070 TM0266

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.
THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE PAL COLOR BROADCAST WAS RECEIVED IN THE GOOD CONDITION AND PICTURE IS NORMAL.

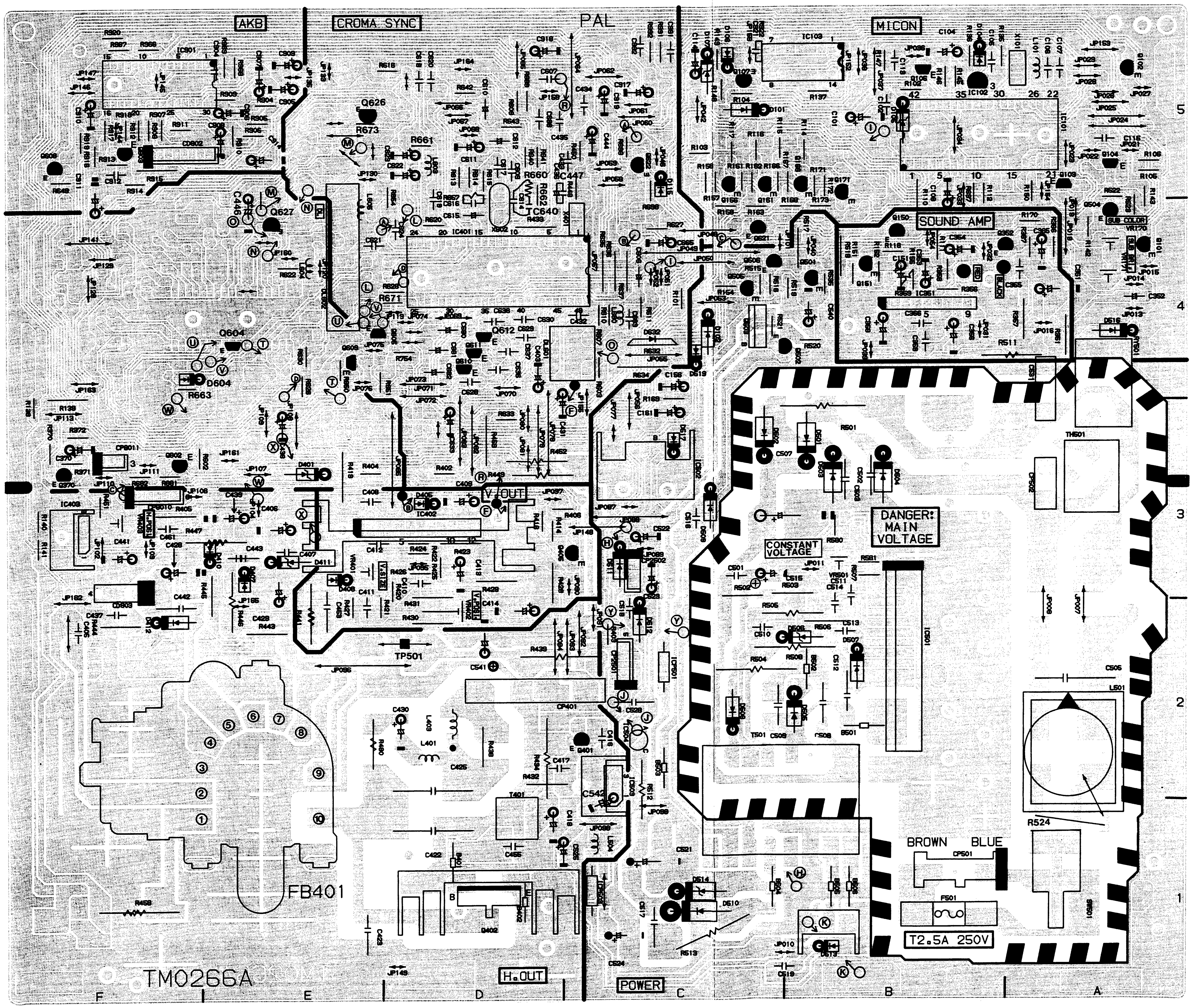
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED ON PARTS LIST ONLY.

CAUTION: DIGITAL TRANSISTOR

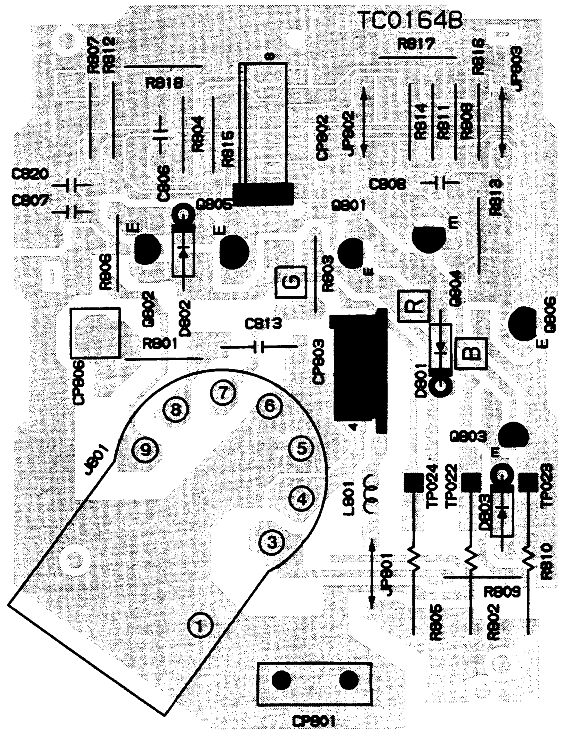


TV PRINTED CIRCUIT BOARDS

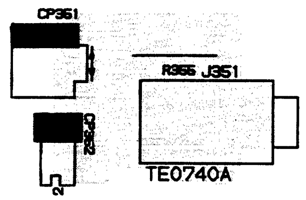
MAIN


AKB
CROMA SYNC
PAL
MICON
SOUND AMP
V.OUT
DANGER: MAIN VOLTAGE
CONSTANT VOLTAGE
BROWN
BLUE
T2.5A 250V
FB401
TM0266A
H.OUT
POWER
TP501
R524
IC401
IC402
IC101
IC102
IC103
IC501
Q626
Q627
Q604
D604
TC640
F
E
D
C
B
A
1
2
3
4
5

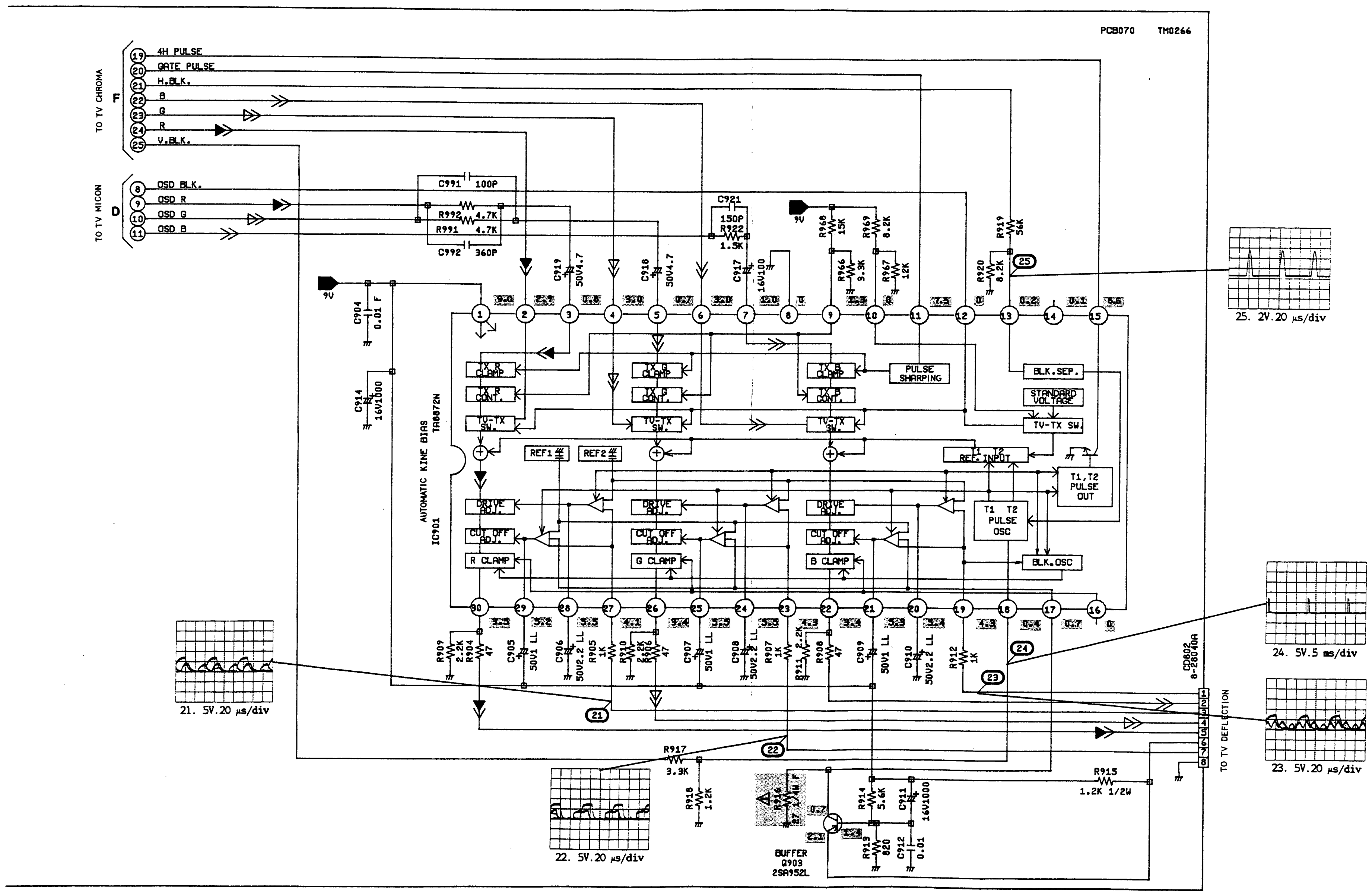
CRT


TC0164B
CP801
CP803
CP806
G
R
B
D901
L901
TP024
TP022
TP023

EARPHONE


CP351
CP352
R355
J351
TE0740A

TV AKB SCHEMATIC DIAGRAM


PCB070 TM0266
TO TV CHROMA
F
19 4H PULSE
20 GATE PULSE
21 H.BLK.
22 B
23 G
24 R
25 V.BLK.
TO TV MICON
D
8 OSD BLK.
9 OSD R
10 OSD G
11 OSD B
C991 100P
R992 4.7K
R991 4.7K
C992 360P
C921 150P
R922 1.5K
9V
R968 15K
R969 8.2K
R966 3.3K
R967 12K
R919 56K
R920 8.2K
C919 50V4.7
C918 50V4.7
C917 16V100
C904 0.01 F
C914 16V1000
9.0
2.9
0.8
3.0
0.7
3.0
1.0
0
1.3
0
7.5
0
0.2
0.1
6.6
AUTOMATIC KINE BIAS
TA8872N
IC901
TX R CLAMP
TX R CONT.
TV-TX SW.
TX G CLAMP
TX G CONT.
TX B CLAMP
TX B CONT.
PULSE SHARPING
BLK.SEP.
STANDARD VOLTAGE
TV-TX SW.
REF1
REF2
T1 T2 REF. INPUT
T1,T2 PULSE OUT
T1 T2 PULSE OSC
DRIVE ADJ.
CUT OFF ADJ.
R CLAMP
G CLAMP
B CLAMP
BLK.OSC
3.5
5.2
5.5
4.1
3.4
5.5
5.5
4.3
3.4
5.3
5.4
4.3
0.4
0.7
0
R909 2.2K
R904 47
C905 50V1 LL
C906 50V2.2 LL
R905 1K
R910 2.2K
R906 47
C907 50V1 LL
C908 50V2.2 LL
R907 1K
R911 2.2K
R908 47
C909 50V1 LL
C910 50V2.2 LL
R912 1K
CD802 8-28040A
TO TV DEFLECTION
1 2 3 4 5 6 7 8
R917 3.3K
R918 1.2K
R916 27 1/4W F
0.7
2.1
1.4
BUFFER Q903 2SA952L
R914 5.6K
R913 820
C911 16V1000
C912 0.01
R915 1.2K 1/2W
21
22
23
24
25
21. 5V.20 µs/div
22. 5V.20 µs/div
23. 5V.20 µs/div
24. 5V.5 ms/div
25. 2V.20 µs/div

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE
CRITICAL FOR SAFETY,USE ONES
DESCRIBED ON PARTS LIST ONLY.

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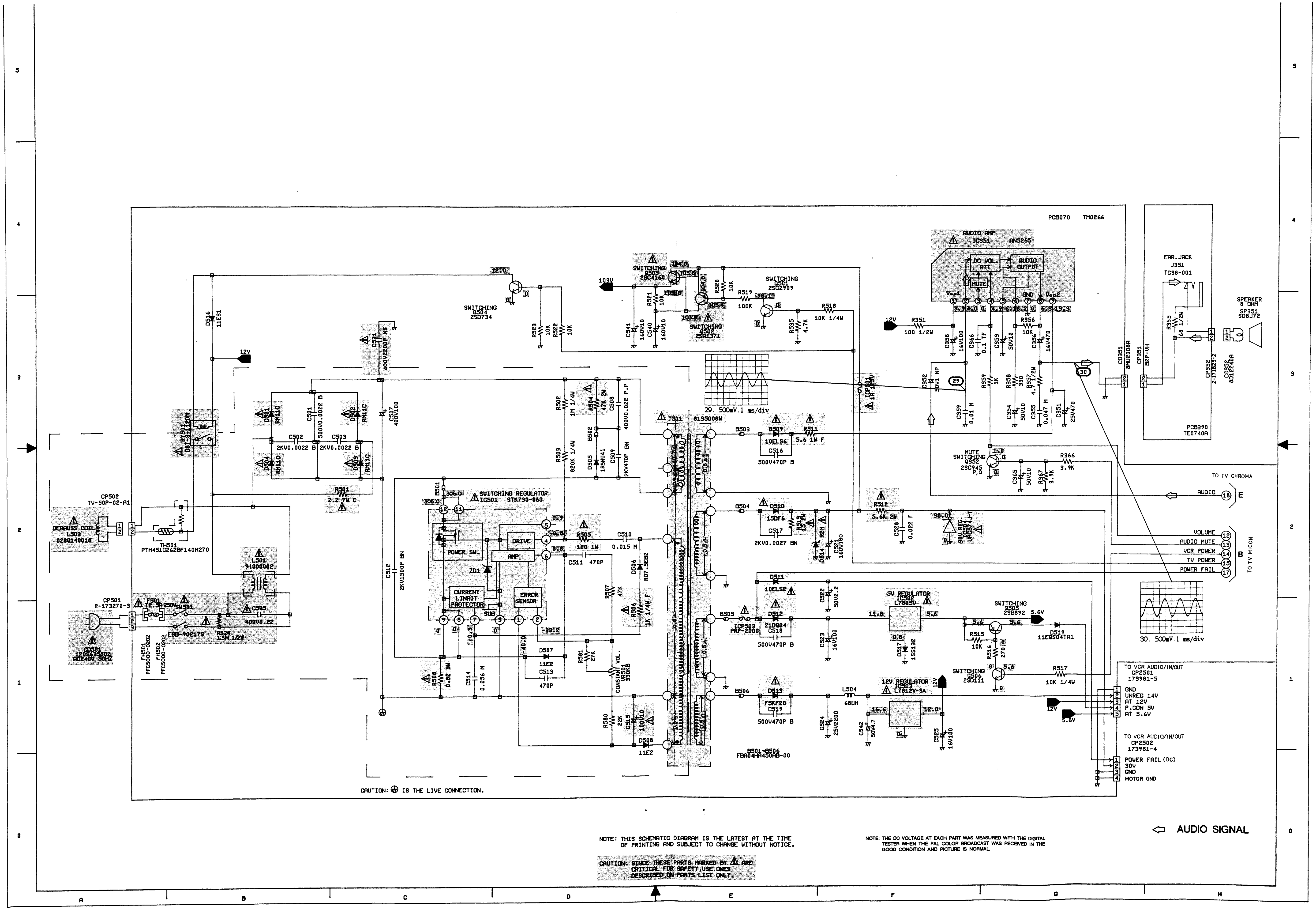
◀◀ R. SIGNAL
◁◁ G. SIGNAL
≪ B. SIGNAL

MODEL: VX-T1410K

TV POWER/AUDIO SCHEMATIC DIAGRAM


PCB070 TM0266
AUDIO AMP IC351 AN5265
DC VOL. ATT
AUDIO OUTPUT
MUTE
Vcc1
GND
Vcc2
EAR.JACK J351 TC38-001
SPEAKER 8 OHM SP351 SD8J72
PCB390 TE0740A
CP351 B2P-VH
CD351 8MU2008A
CP352 2-171825-2
CD352 8D12240A
SWITCHING Q504 2SD734
SWITCHING Q503 2SC4160
SWITCHING Q502 2SA1371
SWITCHING Q501 2SC2909
MUTE SWITCHING Q352 2SC945 P,Q
103V
12V
D516 11ES1
D531 400V2200P N8
RY501 DSP-341U-Q3M
D501 RM11C
D502 RM11C
D503 RM11C
D504 RM11C
C501 500V0.0022 B
C502 2KV0.0022 B
C503 2KV0.0022 B
C507 400V100
R501 2.2 7W C
CP502 TV-50P-02-A1
DEGAUSS COIL L503 0280140016
TH501 PTH451C262BF140M270
L501 91000002
CP501 2-173270-3
F501 T2.5A 250V
S501
FH501 PFC5000-0202
FH502 PFC5000-0202
C505 400V0.22
ESB-90217S
R524 1.5M 1/2W
CD501 1205621602 AC240V 50HZ
SWITCHING REGULATOR IC501 STK730-060
POWER SW.
DRIVE
AMP
ZD1
CURRENT LIMIT PROTECTOR
ERROR SENSOR
SUB
C512 2KV1500P BN
R508 0.82 3W
C514 0.056 M
D507 11E2
C513 470P
R581 27K
CONSTANT VOL. VR501 330KB
R580 22K
C515 100V10
D508 11E2
R505 100 1W
C510 0.015 M
C511 470P
D506 RD7.5EB2
R507 47K
R506 1K 1/4W F
R502 1M 1/4W
R503 820K 1/4W
R504 47K 2W
C508 400V0.022 P,P
D505 1R5NU41
C509 2KV470P BN
T501 8195008W
29. 500mV.1 ms/div
30. 500mV.1 ms/div
B503 D509 10ELS6 R511 5.6 1W F C516 500V470P B
B504 D510 15DF6 C517 2KV0.0027 BN R513 R2M D514 C521 160V180
R512 5.6K 2W
C528 0.022 F
30V REG. UPC574J-T
B505 D511 10ELS2 D512 21DQ04 C518 500V470P B
ICP503 PRF-2000
C522 50V2.2
C523 16V100
5V REGULATOR IC502 L7805V
D517 1SS132
SWITCHING Q505 2SB892
R515 10K
R516 270
D519 11EQS04TA1
SWITCHING Q506 2SD111
R517 10K 1/4W
B506 D513 F5KF20 C519 500V470P B
L504 68UH
12V REGULATOR IC503 L7812V-SA
C524 25V2200
C542 50V4.7
C525 16V100
B501-B506 FBR04HA450AB-00
R351 100 1/2W
R356 10K
R355 68 1/2W
C352 50V1 NP
C359 0.01 M
R359 1K
R358 330
R357 2W
C354 50V10
C355 0.047 M
C351 25V470
C358 16V100
C366 0.1 TF
C353 50V10
C357 16V470
C365 50V10
R367 3.9K
R366 3.9K
R520 10K
R521 10K
R519 100K
R518 10K 1/4W
R535 4.7K
R523 10K
R522 10K
C541 160V10
C540 160V10
TO TV CHROMA
AUDIO ⑱ E
VOLUME ⑫
AUDIO MUTE ⑬
VCR POWER ⑭
TV POWER ⑮
POWER FAIL ⑰
B
TO TV MICON
TO VCR AUDIO/IN/OUT CP2501 173981-5
GND
UNREG 14V
AT 12V
P.CON 5V
AT 5.6V
TO VCR AUDIO/IN/OUT CP2502 173981-4
POWER FAIL (DC)
30V
GND
MOTOR GND
CAUTION: ⏚ IS THE LIVE CONNECTION.
⇦ AUDIO SIGNAL
A B C D E F G H
0 1 2 3 4 5

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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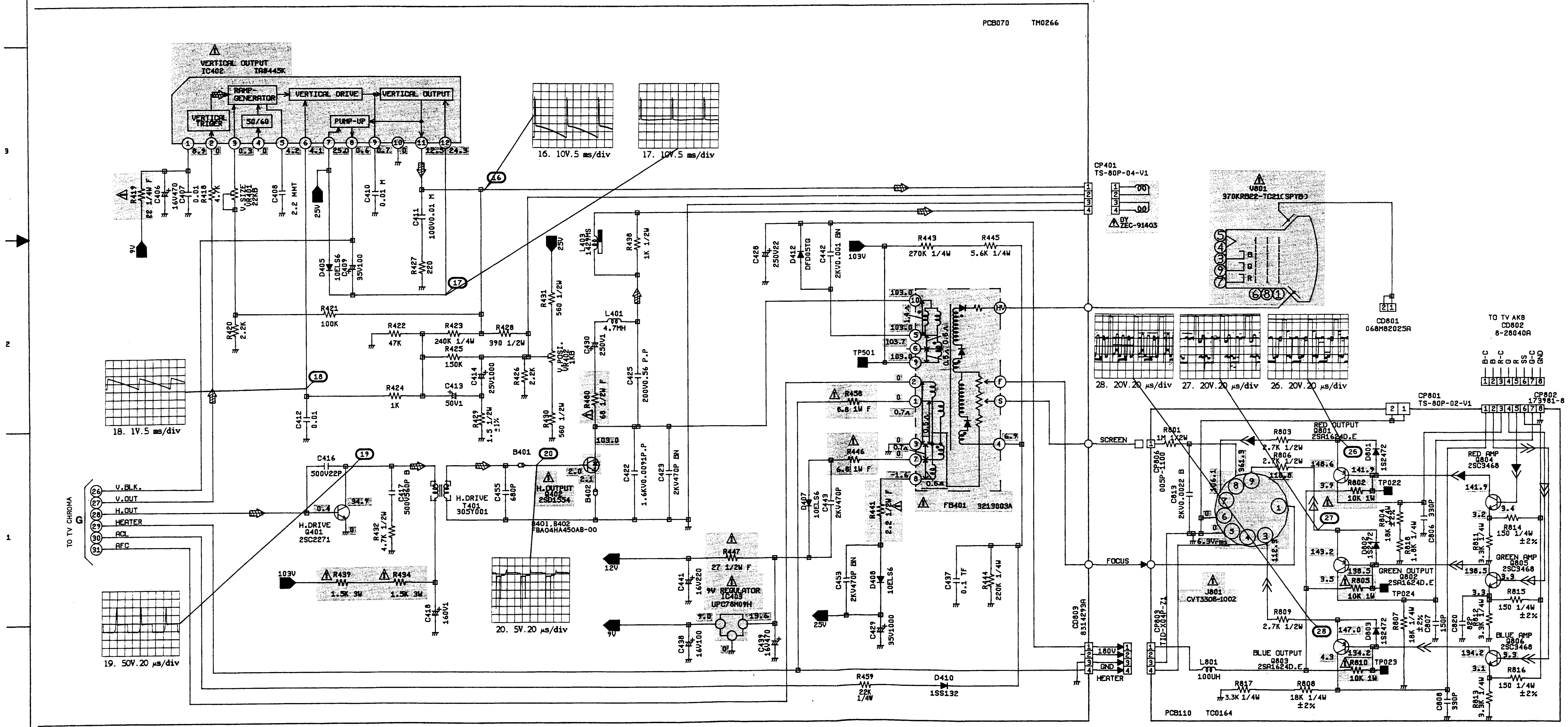
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

TV DEFLECTION SCHEMATIC DIAGRAM


PCB070 TM0266
VERTICAL OUTPUT IC402 TA8445K
RAMP-GENERATOR
VERTICAL DRIVE
VERTICAL OUTPUT
VERTICAL TRIGER
50/60
PUMP-UP
16. 10V.5 ms/div
17. 10V.5 ms/div
18. 1V.5 ms/div
19. 50V.20 µs/div
20. 5V.20 µs/div
28. 20V.20 µs/div
27. 20V.20 µs/div
26. 20V.20 µs/div
CP401 TS-80P-04-V1
DY ZEC-91403
V801 370KRB22-TC21(SPYB)
CD801 068M82025A
TO TV AK8 CD802 8-28040A
CP801 TS-80P-02-V1
CP802 173981-8
TO TV CHROMA
V.BLK.
V.OUT
H.OUT
HEATER
ACL
AFC
H.DRIVE Q401 2SC2271
H.DRIVE T401 30ST001
H.OUTPUT Q402 2SD1554
B401,B402 FBA04HA450AB-00
9V REGULATOR IC403 UPC78M09H
FB401 3219803A
TP501
SCREEN
FOCUS
HEATER
CD803 8314273A
CP803 TID-X04P-Z1
J801 CVT3306-1002
RED OUTPUT Q801 2SA1624D.E
GREEN OUTPUT Q802 2SA1624D.E
BLUE OUTPUT Q803 2SA1624D.E
RED AMP Q804 2SC3468
GREEN AMP Q805 2SC3468
BLUE AMP Q806 2SC3468
TP022
TP023
TP024
L801 100UH
PCB110 TC0164
103V
25V
12V
9V
180V
GND
5
4
3
2
1
0
A
B
C
D
E
F
G
H

⋘ R. SIGNAL
⋘ G. SIGNAL
≪ B. SIGNAL
⇦ DEFLECTION SIGNAL

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE. THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE PAL COLOR BROADCAST WAS RECEIVED IN THE GOOD CONDITION AND PICTURE IS NORMAL.

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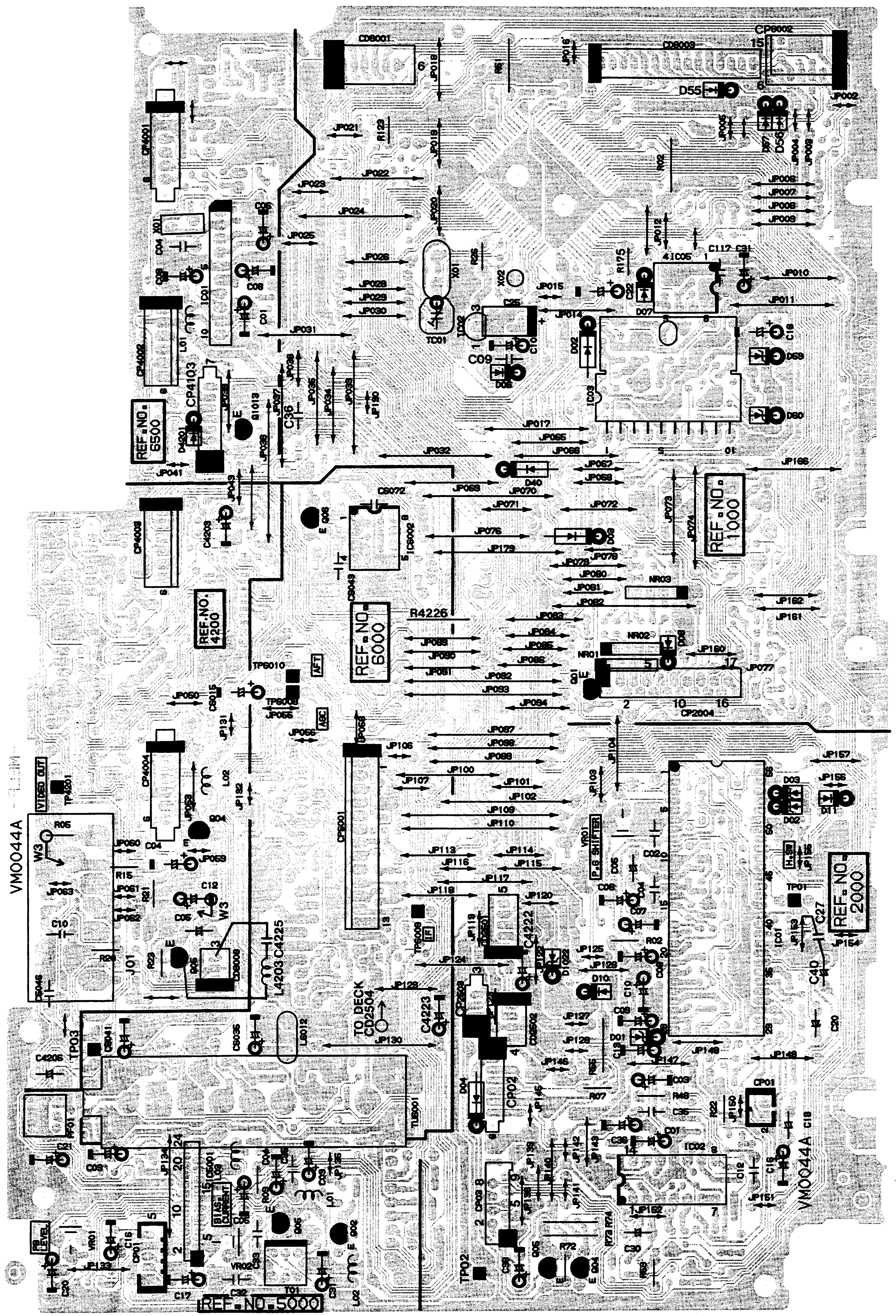
MODEL: VX-T1410K

VCR PRINTED CIRCUIT BOARDS

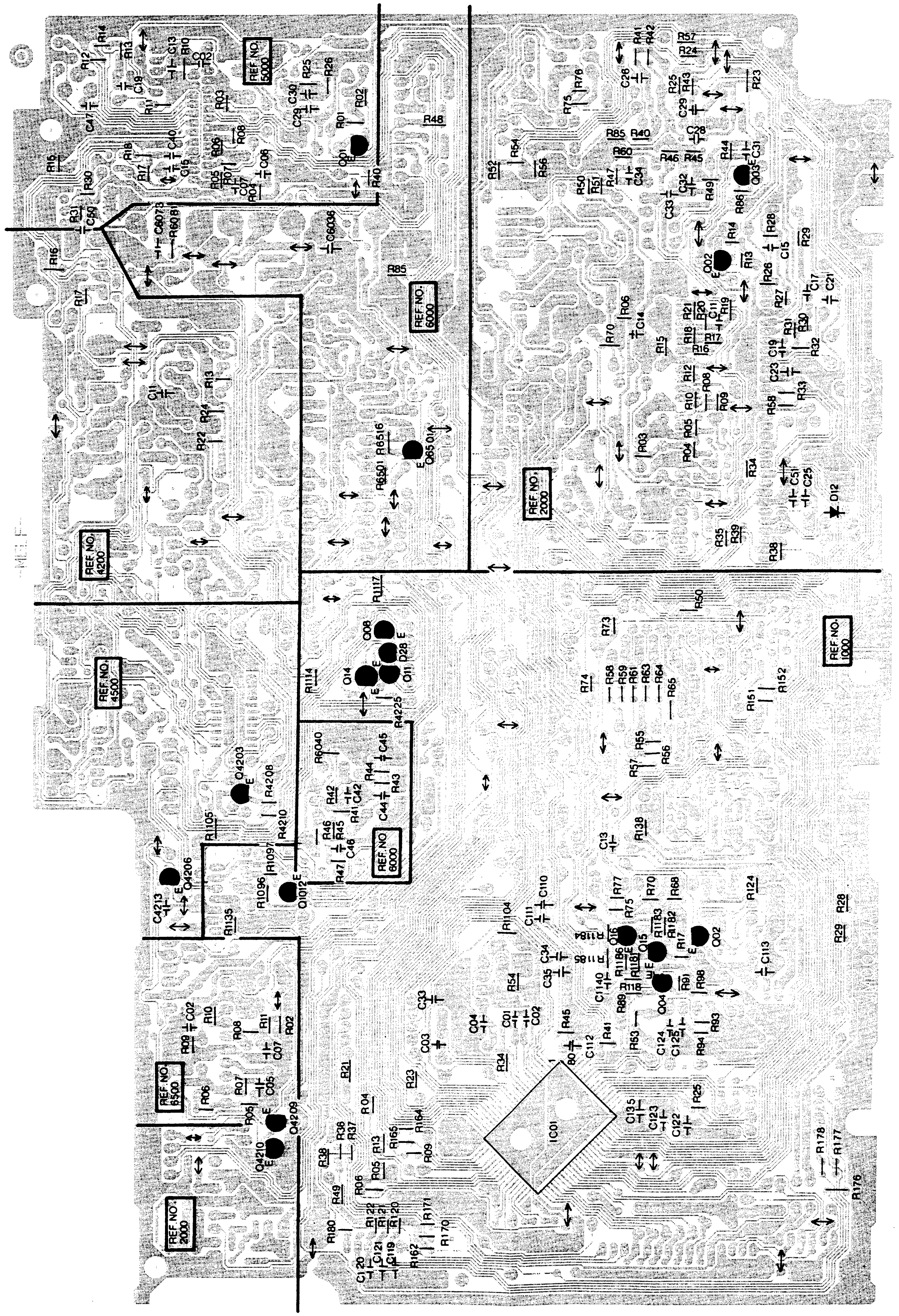
MAIN

COMPONENT SIDE



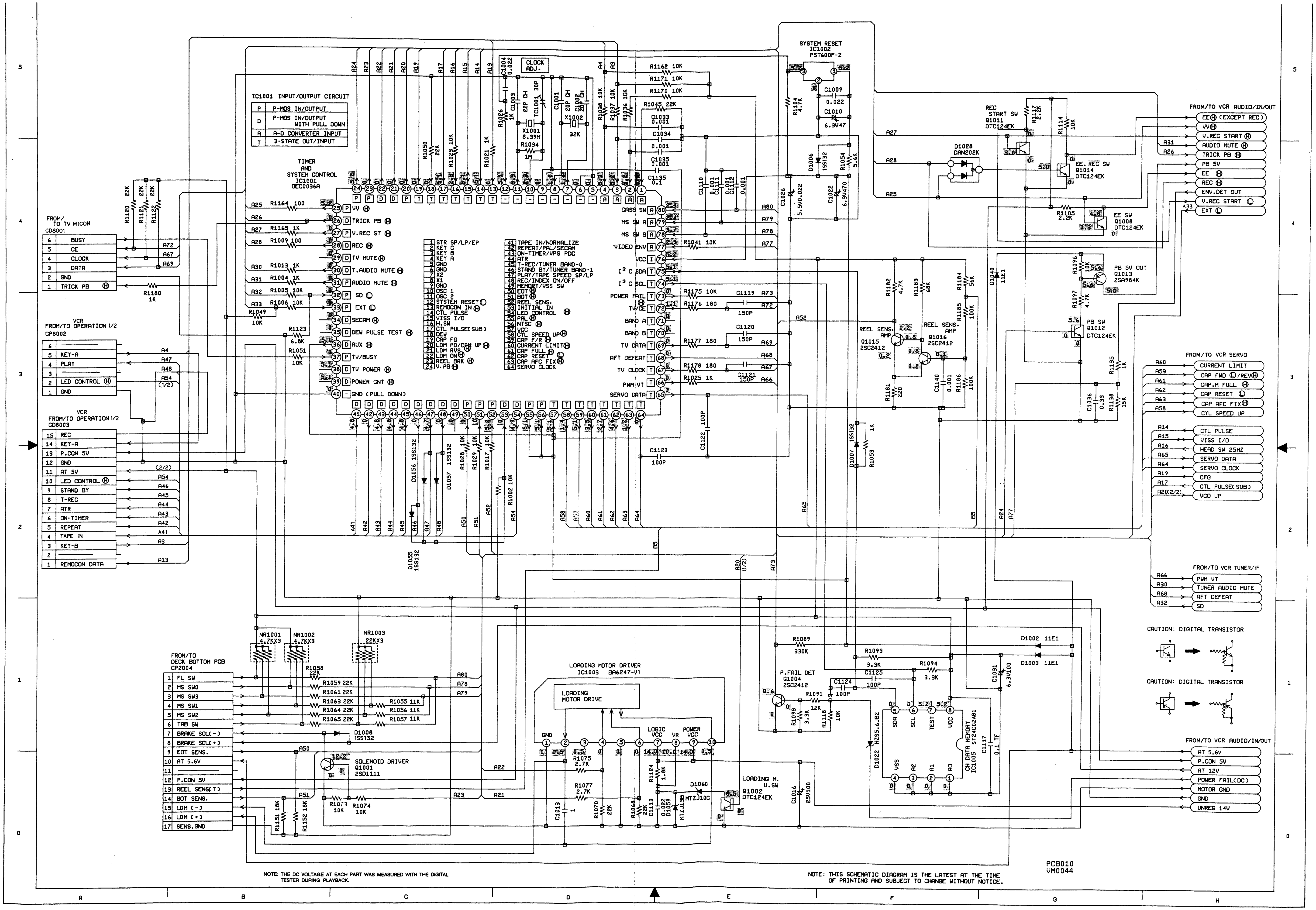
CP6002
D55
D56
REF. NO. 6500
REF. NO. 1000
REF. NO. 4200
REF. NO. 6000
REF. NO. 2000
REF. NO. 5000
R4226
VM0044A
VIDEO OUT
TO DECK CD2504
CP2004

SOLDER SIDE



REF. NO. 5000
REF. NO. 6000
REF. NO. 2000
REF. NO. 4200
REF. NO. 1000
REF. NO. 4500
REF. NO. 6000
REF. NO. 6500
REF. NO. 3000
IC01

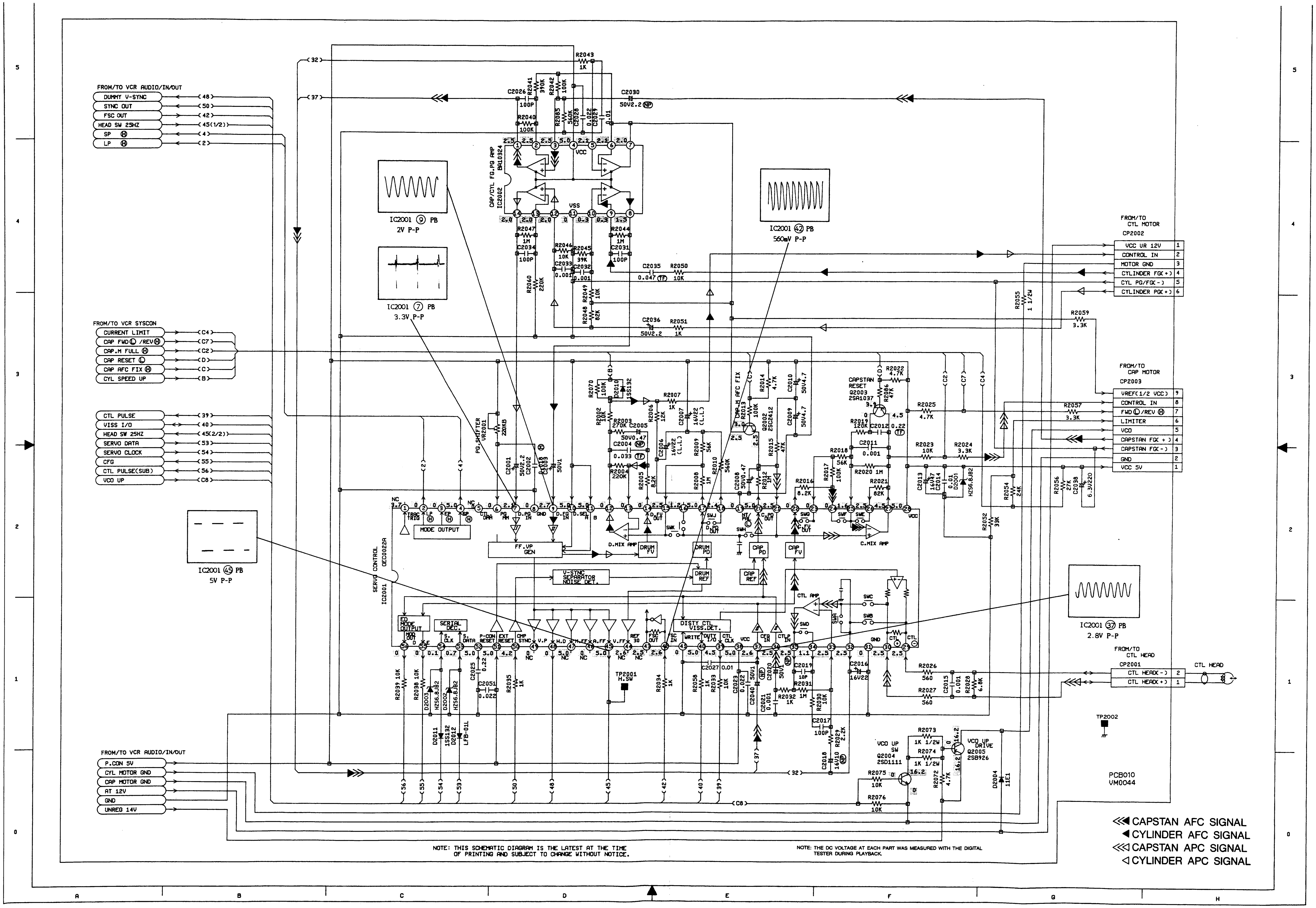
VCR SYSTEM CONTROL SCHEMATIC DIAGRAM


IC1001 INPUT/OUTPUT CIRCUIT
P P-MOS IN/OUTPUT
D P-MOS IN/OUTPUT WITH PULL DOWN
A A-D CONVERTER INPUT
T 3-STATE OUT/INPUT
TIMER AND SYSTEM CONTROL IC1001 OEC0036A
SYSTEM RESET IC1002 PST600F-2
CLOCK ADJ.
X1001 8.39M
X1002 32K
FROM/TO TV MICON CD8001
BUSY
CE
CLOCK
DATA
GND
TRICK PB
VCR FROM/TO OPERATION 1/2 CP8002
KEY-A
PLAY
LED CONTROL
VCR FROM/TO OPERATION 1/2 CD8003
REC
P.CON 5V
AT 5V
STAND BY
T-REC
ATR
ON-TIMER
REPEAT
TAPE IN
KEY-B
REMOCON DATA
FROM/TO VCR AUDIO/IN/OUT
EE (EXCEPT REC)
VV
V.REC START
AUDIO MUTE
TRICK PB
PB 5V
EE
REC
ENV.DET OUT
V.REC START
EXT
REC START SW Q1011 DTC124EK
EE. REC SW Q1014 DTC124EK
EE SW Q1008 DTC124EK
D1028 DAN202K
PB 5V OUT Q1013 2SA984K
PB SW Q1012 DTC124EK
REEL SENS. AMP Q1015 2SC2412
REEL SENS. AMP Q1016 2SC2412
FROM/TO VCR SERVO
CURRENT LIMIT
CAP FWD / REV
CAP.M FULL
CAP RESET
CAP AFC FIX
CYL SPEED UP
CTL PULSE
VISS I/O
HEAD SW 25HZ
SERVO DATA
SERVO CLOCK
CFG
CTL PULSE(SUB)
VCO UP
FROM/TO VCR TUNER/IF
PWM VT
TUNER AUDIO MUTE
AFT DEFEAT
SD
CAUTION: DIGITAL TRANSISTOR
FROM/TO DECK BOTTOM PCB CP2004
FL SW
MS SW0
MS SW3
MS SW1
MS SW2
TAB SW
BRAKE SOL(-)
BRAKE SOL(+)
EOT SENS.
AT 5.6V
P.CON 5V
REEL SENS(T)
BOT SENS.
LDM (-)
LDM (+)
SENS.GND
NR1001 4.7KX3
NR1002 4.7KX3
NR1003 22KX3
SOLENOID DRIVER Q1001 2SD1111
D1008 1SS132
LOADING MOTOR DRIVER IC1003 BA6247-V1
LOADING MOTOR DRIVE
GND
LOGIC VCC
VR
POWER VCC
LOADING M. U.SW Q1002 DTC124EK
P.FAIL DET Q1004 2SC2412
CH DATA MEMORY IC1005 ST24C02AB1
SDA
SCL
TEST
VCC
VSS
A2
A1
A0
D1002 11E1
D1003 11E1
D1022 HZS5.6JB2
AT 5.6V
P.CON 5V
AT 12V
POWER FAIL(DC)
MOTOR GND
GND
UNREG 14V
PCB010
VM0044

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

VCR SERVO SCHEMATIC DIAGRAM


FROM/TO VCR AUDIO/IN/OUT
DUMMY V-SYNC (48)
SYNC OUT (50)
FSC OUT (42)
HEAD SW 25HZ (45(1/2))
SP Ⓗ (4)
LP Ⓗ (2)
FROM/TO VCR SYSCON
CURRENT LIMIT (C4)
CAP FWDⓁ /REVⒽ (C7)
CAP.M FULL Ⓗ (C2)
CAP RESET Ⓛ (D)
CAP AFC FIX Ⓗ (C)
CYL SPEED UP (B)
CTL PULSE (39)
VISS I/O (40)
HEAD SW 25HZ (45(2/2))
SERVO DATA (53)
SERVO CLOCK (54)
CFG (55)
CTL PULSE(SUB) (56)
VCO UP (C8)
IC2001 ⑨ PB 2V P-P
IC2001 ⑦ PB 3.3V P-P
IC2001 ㊺ PB 5V P-P
IC2001 ㊷ PB 560mV P-P
IC2001 ㊲ PB 2.8V P-P
CAP/CYL FG.PG AMP IC2002 BA10324
SERVO CONTROL IC2001 OEC0022A
FROM/TO CYL MOTOR CP2002
VCC UR 12V 1
CONTROL IN 2
MOTOR GND 3
CYLINDER FG(+) 4
CYL PG/FG(-) 5
CYLINDER PG(+) 6
FROM/TO CAP MOTOR CP2003
VREF(1/2 VCC) 9
CONTROL IN 8
FWD Ⓛ/REV Ⓗ 7
LIMITER 6
VCO 5
CAPSTAN FG(+) 4
CAPSTAN FG(-) 3
GND 2
VCC 5V 1
FROM/TO CTL HEAD CP2001
CTL HEAD(-) 2
CTL HEAD(+) 1
CTL HEAD
FROM/TO VCR AUDIO/IN/OUT
P.CON 5V
CYL MOTOR GND
CAP MOTOR GND
AT 12V
GND
UNREG 14V
VCO UP SW Q2004 2SD1111
VCO UP DRIVE Q2005 2SB926
CAPSTAN RESET Q2003 2SA1037
TP2001 H.SW
TP2002
PCB010 VM0044

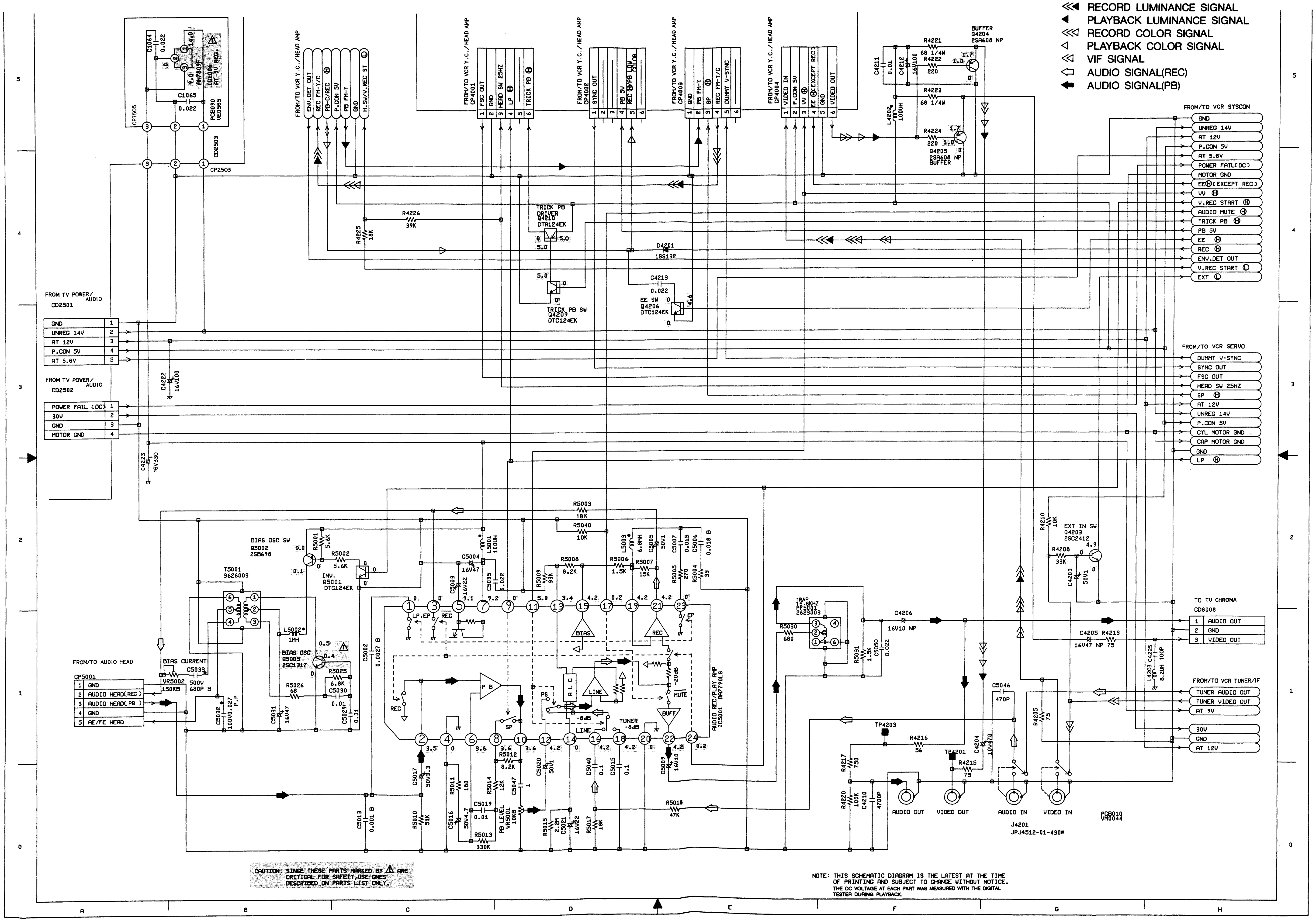
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

◀◀◀ CAPSTAN AFC SIGNAL
◀ CYLINDER AFC SIGNAL
◁◁◁ CAPSTAN APC SIGNAL
◁ CYLINDER APC SIGNAL

MODEL: VX-T1410K

VCR AUDIO/IN/OUT SCHEMATIC DIAGRAM



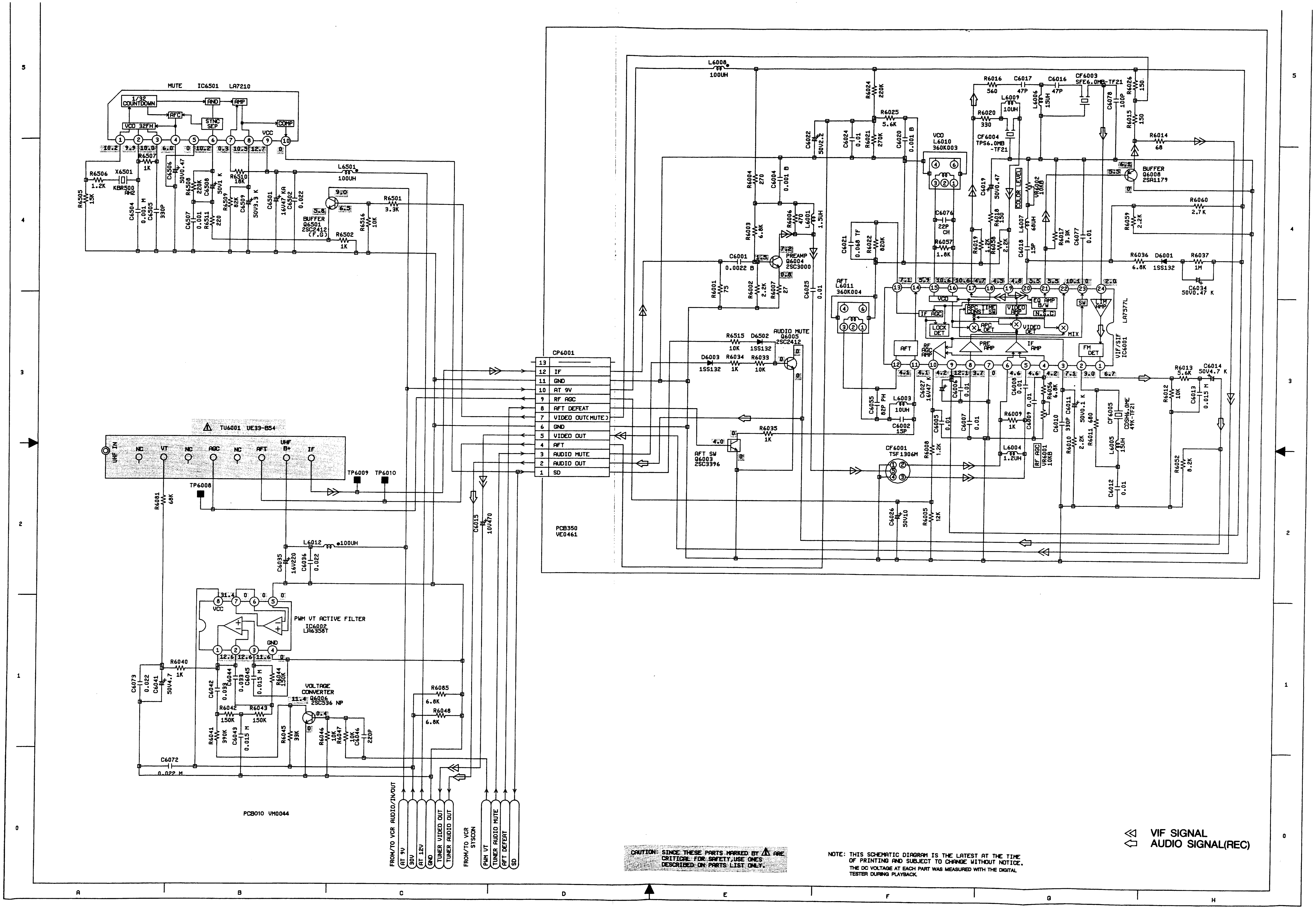
⪡◀ RECORD LUMINANCE SIGNAL
◀ PLAYBACK LUMINANCE SIGNAL
⪡◁ RECORD COLOR SIGNAL
◁ PLAYBACK COLOR SIGNAL
≪ VIF SIGNAL
⇦ AUDIO SIGNAL(REC)
⬅ AUDIO SIGNAL(PB)
FROM/TO VCR SYSCON
GND
UNREG 14V
AT 12V
P.CON 5V
AT 5.6V
POWER FAIL(DC)
MOTOR GND
EE Ⓗ (EXCEPT REC)
VV Ⓗ
V.REC START Ⓗ
AUDIO MUTE Ⓗ
TRICK PB Ⓗ
PB 5V
EE Ⓗ
REC Ⓗ
ENV.DET OUT
V.REC START Ⓛ
EXT Ⓛ
FROM/TO VCR SERVO
DUMMY V-SYNC
SYNC OUT
FSC OUT
HEAD SW 25HZ
SP Ⓗ
AT 12V
UNREG 14V
P.CON 5V
CYL MOTOR GND
CAP MOTOR GND
GND
LP Ⓗ
TO TV CHROMA
CD8008
1 AUDIO OUT
2 GND
3 VIDEO OUT
FROM/TO VCR TUNER/IF
TUNER AUDIO OUT
TUNER VIDEO OUT
AT 9V
30V
GND
AT 12V
FROM TV POWER/AUDIO
CD2501
GND 1
UNREG 14V 2
AT 12V 3
P.CON 5V 4
AT 5.6V 5
FROM TV POWER/AUDIO
CD2502
POWER FAIL (DC) 1
30V 2
GND 3
MOTOR GND 4
FROM/TO AUDIO HEAD
CP5001
1 GND
2 AUDIO HEAD(REC)
3 AUDIO HEAD(PB)
4 GND
5 AE/FE HEAD
CP7505
C1064 0.022
C1065 0.022
IC1006 AN7809F AT 9V REG.
PCB090 VE0565
CD2503
CP2503
FROM/TO VCR Y.C./HEAD AMP
ENV.DET OUT
REC FM-Y/C
PB-C/REC Ⓗ
P.CON 5V
PB FM-Y
GND
H.SW/V.REC ST Ⓛ
CP4001
1 FSC OUT
2 GND
3 HEAD SW 25HZ
4 LP Ⓗ
5
6 TRICK PB Ⓗ
CP4002
1 SYNC OUT
2
3
4 PB 5V
5 REC Ⓗ/PB Ⓛ
6
CP4003
1 GND
2 PB FM-Y
3 SP Ⓗ
4 REC FM-Y/C
5 DUMMY V-SYNC
6
CP4004
1 VIDEO IN
2 P.CON 5V
3 VV Ⓗ
4 EE Ⓗ(EXCEPT REC)
5 GND
6 VIDEO OUT
R4221 68 1/4W
R4222 220
BUFFER Q4204 2SA608 NP
C4211 0.01
C4212 16V100
R4223 68 1/4W
L4202 100UH
R4224 220
Q4205 2SA608 NP BUFFER
R4226 39K
R4225 18K
TRICK PB DRIVER Q4210 DTA124EK
TRICK PB SW Q4209 DTC124EK
D4201 1SS132
C4213 0.022
EE SW Q4206 DTC124EK
C4222 16V100
C4223 16V330
R5003 18K
R5040 10K
BIAS OSC SW Q5002 2SB698
R5001 5.6K
R5002 5.6K
INV. Q5001 DTC124EK
T5001 3626003
L5001 100UH
C5004 16V47
C5003 16V22
C5035 0.022
R5009 33K
R5008 8.2K
R5006 1.5K
R5007 15K
L5003 6.8MH
C5005 50V1
C5007 0.015
C5006 0.018 B
R5005 270
R5004 33
L5002 1MH
BIAS OSC Q5005 2SC1317
R5025 6.8K
C5030 0.01
C5029 0.01
R5026 68
C5031 16V47
C5002 0.0027 B
BIAS CURRENT VR5002 150KB
C5033 500V 680P B
C5032 100V0.027 P.P
LP.EP REC
BIAS
REC
EP
PB
ALC
LINE
-20dB
MUTE
BUFF
PS
-8dB
LINE
TUNER -8dB
SP
AUDIO REC/PLAY AMP IC5001 BA7790LS
C5017 50V3.3
R5011 180
R5014 12K
C5047 1
R5012 8.2K
C5020 50V1
C5040 0.1
C5015 0.1
C5009 16V10
C5019 0.01
C5013 0.001 B
R5010 51K
C5016 50V4.7
R5013 330K
PB LEVEL VR5001 10KB
R5015 2.2M
C5021 16V22
R5017 18K
R5018 47K
TRAP 15.6KHZ PF5001 2623003
R5030 680
R5031 1.5K
C5050 0.022
C4206 16V10 NP
C4205 16V47 NP
R4213 75
L4203 8.2UH
C4225 100P
EXT IN SW Q4203 2SC2412
R4210 10K
R4208 33K
C4203 50V1
TP4203
R4216 56
TP4201
R4215 75
C4204 10V470
R4205 75
C5046 470P
R4217 750
R4220 100K
C4210 4700P
AUDIO OUT
VIDEO OUT
AUDIO IN
VIDEO IN
J4201 JPJ4512-01-430W
PCB010 VM0044
A
B
C
D
E
F
G
H
0
1
2
3
4
5

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE. THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

MODEL: VX-T1410K

VCR TUNER/IF SCHEMATIC DIAGRAM


MUTE IC6501 LA7210
1/32 COUNTDOWN
AND
AMP
AFC
SYNC SEP
COMP
VCO 32FH
VCC
X6501 KBR500 AH2
BUFFER Q6501 2SC2412 (F.G)
L6501 100UH
L6008 100UH
VCO L6010 360K003
AFT L6011 360K004
PREAMP Q6004 2SC3000
AUDIO MUTE Q6005 2SC2412
AFT SW Q6003 2SC3396
BUFFER Q6008 2SA1179
CF6003 SFE6.0MB-TF21
CF6004 TPS6.0MB-TF21
CF6001 TSF1306M
CF6005 CDSH6.0ME 49K-TF21
COLOR LEVEL
VIF/SIF IC6001 LA7577L
VCO
IF AGC
AFC TIME CONST SW
VIDEO AMP
EQ AMP B/W
N.S.C
LOCK DET
APC DET
VIDEO DET
MIX
SW
LIM AMP
AFT
RF AGC AMP
PRE AMP
IF AMP
FM DET
CP6001
13
12 IF
11 GND
10 AT 9V
9 RF AGC
8 AFT DEFEAT
7 VIDEO OUT(MUTE)
6 GND
5 VIDEO OUT
4 AFT
3 AUDIO MUTE
2 AUDIO OUT
1 SD
PCB350 VE0461
TU6001 UE33-B54
UHF IN
NC
VT
NC
AGC
NC
AFT
UHF B+
IF
TP6008
TP6009
TP6010
L6012 100UH
PWM VT ACTIVE FILTER IC6002 LA6358T
VCC
GND
VOLTAGE CONVERTER Q6006 2SC536 NP
PCB010 VM0044
FROM/TO VCR AUDIO/IN/OUT
AT 9V
30V
AT 12V
GND
TUNER VIDEO OUT
TUNER AUDIO OUT
FROM/TO VCR SYSCON
PWM VT
TUNER AUDIO MUTE
AFT DEFEAT
SD
A
B
C
D
E
F
G
H
0
1
2
3
4
5

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

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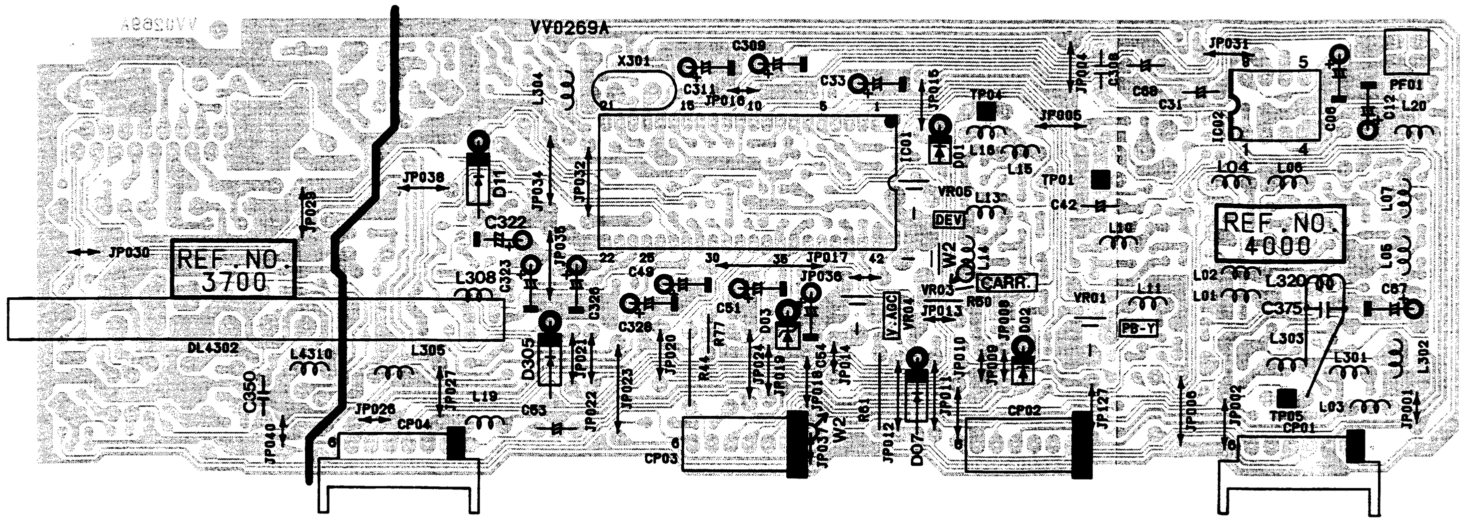
≪ VIF SIGNAL
⇦ AUDIO SIGNAL(REC)

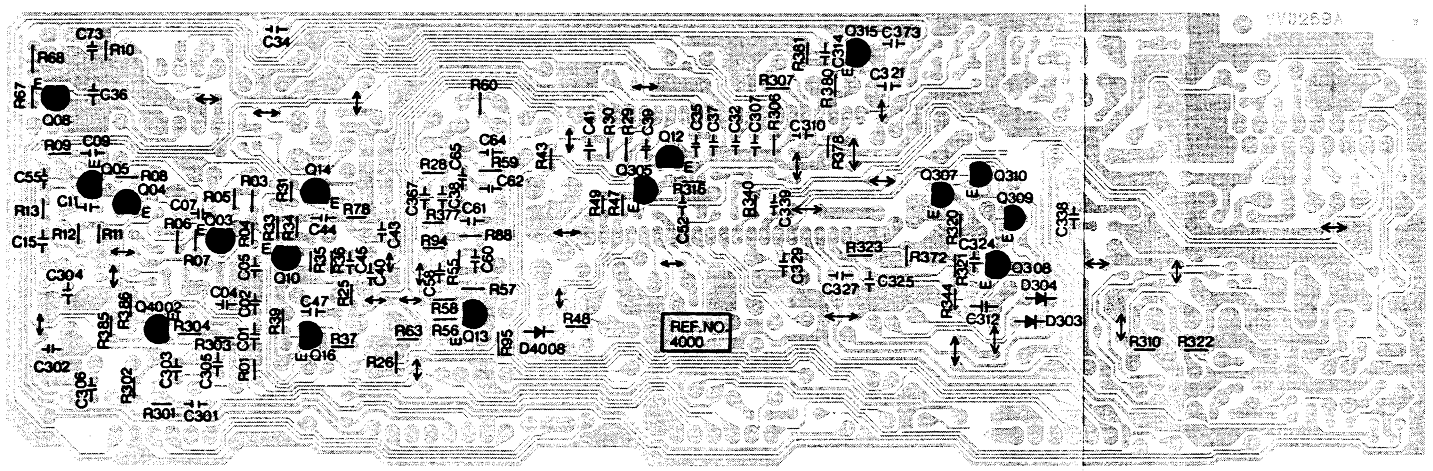
VCR PRINTED CIRCUIT BOARDS

Y.C.

COMPONENT SIDE

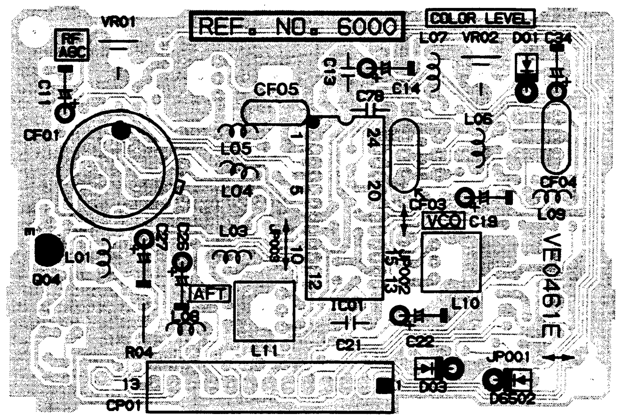

VV0269A
REF.NO. 3700
REF.NO. 4000
X301
IC01
DL4302
CP01
CP02
CP03
CP04
TP01
TP04
TP05
DEV
CARR.
PB-Y
V-AGC

SOLDER SIDE

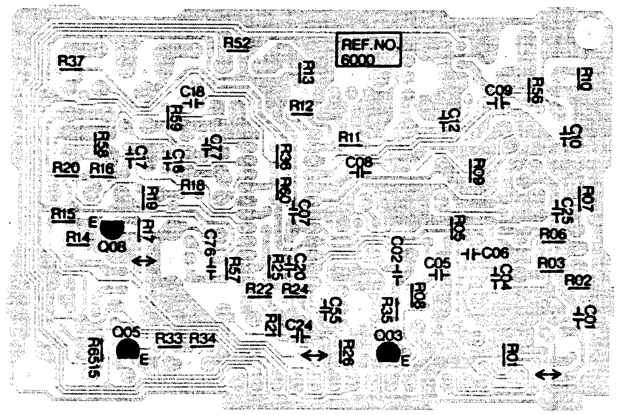

VV0269A
REF.NO. 4000

IF

COMPONENT SIDE

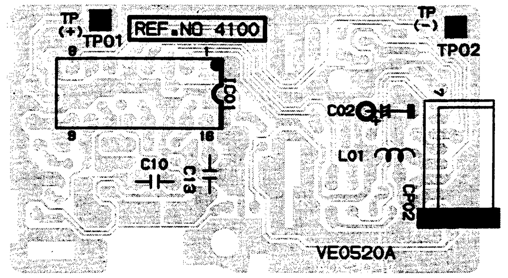

REF. NO. 6000
COLOR LEVEL
RF AGC
AFT
VCO
VE0461E
IC01
CP01

SOLDER SIDE

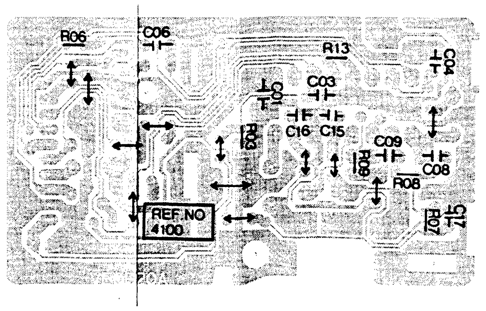


HEAD AMP

COMPONENT SIDE

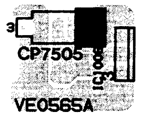

TP (+) TP01
REF.NO 4100
TP (−) TP02
IC01
CP02
L01
VE0520A

SOLDER SIDE

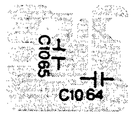


TRANSISTOR

COMPONENT SIDE

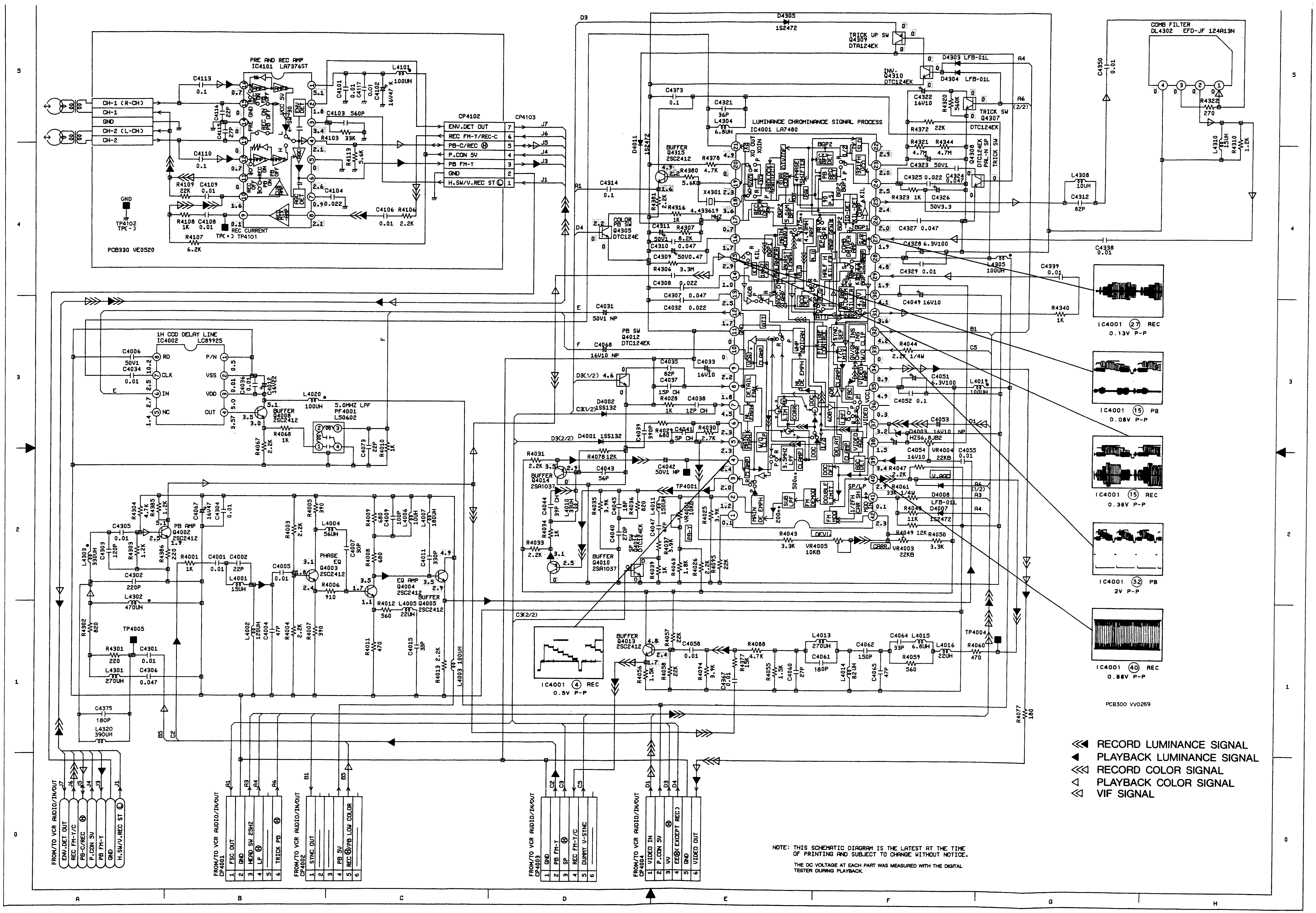

CP7505
VE0565A

SOLDER SIDE


C1065
C1064

MODEL: VX-T1410K

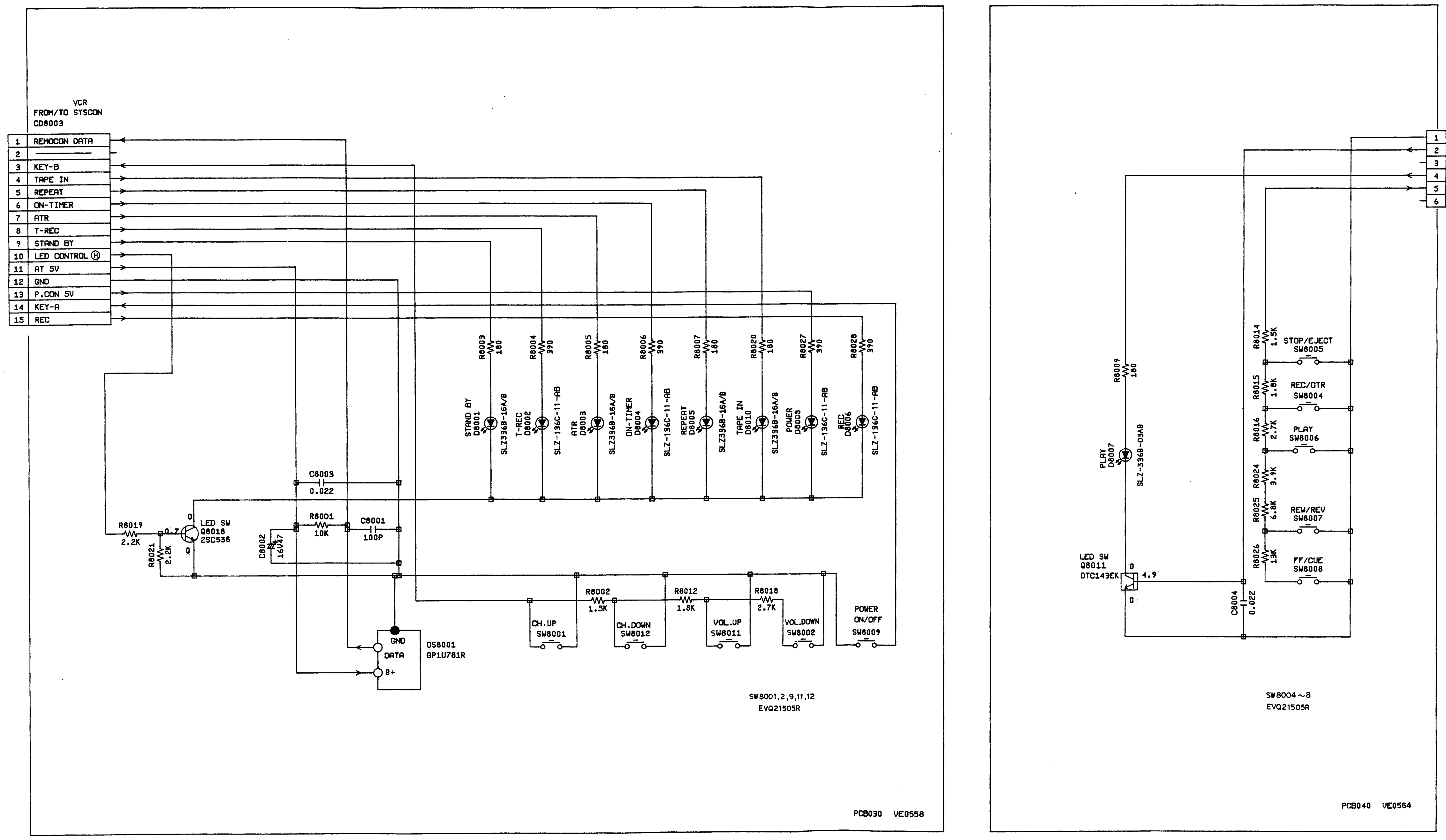
VCR Y.C./HEAD AMP SCHEMATIC DIAGRAM


PRE AND REC AMP
IC4101 LA7376ST
CH-1 (R-CH)
CH-1
GND
CH-2 (L-CH)
CH-2
CP4102
ENV.DET OUT
REC FM-Y/REC-C
PB-C/REC ⊕
P.CON 5V
PB FM-Y
GND
H.SW/V.REC ST
CP4103
REC CURRENT
TP(+) TP4101
TP4102 TPC-)
PCB330 VE0520
LUMINANCE CHROMINANCE SIGNAL PROCESS
IC4001 LA7480
BUFFER Q4315 2SC2412
X4301 4.433619 MHZ
COLOR PB SW Q4305 DTC124E
TRICK UP SW Q4309 DTA124EK
INV. Q4310 DTC124EK
TRICK SW Q4307 DTC124EK
TRICK SW Q4308 DTC124EK PAL-N SP
D4305 1S2472
D4303 LFB-01L
D4304 LFB-01L
COMB FILTER DL4302 EFD-JF 124A13N
1H CCD DELAY LINE IC4002 LC89925
5.0MHZ LPF PF4001 L50602
BUFFER Q4006 2SC2412
PB SW Q4012 DTC124EK
PB AMP Q4002 2SC2412
PHASE EQ Q4003 2SC2412
EQ AMP Q4004 2SC2412
BUFFER Q4005 2SC2412
BUFFER Q4014 2SA1037
BUFFER Q4010 2SA1037
SP SW Q4011 DTC124EK
BUFFER Q4013 2SC2412
TP4001
TP4004
TP4005
IC4001 ④ REC 0.5V P-P
IC4001 ㉗ REC 0.13V P-P
IC4001 ⑮ PB 0.08V P-P
IC4001 ⑮ REC 0.36V P-P
IC4001 ㉜ PB 2V P-P
IC4001 ㊵ REC 0.88V P-P
PCB300 VV0269
FROM/TO VCR AUDIO/IN/OUT
ENV.DET OUT
REC FM-Y/C
PB-C/REC ⊕
P.CON 5V
PB FM-Y
GND
H.SW/V.REC ST
FROM/TO VCR AUDIO/IN/OUT CP4001
FSC OUT
GND
HEAD SW 25HZ
LP ⊕
TRICK PB
FROM/TO VCR AUDIO/IN/OUT CP4002
SYNC OUT
PB 5V
REC ⊕/PB LOW COLOR
FROM/TO VCR AUDIO/IN/OUT CP4003
GND
PB FM-Y
SP
REC FM-Y/C
DUMMY V-SYNC
FROM/TO VCR AUDIO/IN/OUT CP4004
VIDEO IN
P.CON 5V
UV
EE⊕(EXCEPT REC)
GND
VIDEO OUT
A
B
C
D
E
F
G
H
0
1
2
3
4
5
⋘◀ RECORD LUMINANCE SIGNAL
◀ PLAYBACK LUMINANCE SIGNAL
⋘◁ RECORD COLOR SIGNAL
◁ PLAYBACK COLOR SIGNAL
≪◁ VIF SIGNAL

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

VCR OPERATION 1/2 SCHEMATIC DIAGRAM


VCR
FROM/TO SYSCON
CD8003
1 REMOCON DATA
2
3 KEY-B
4 TAPE IN
5 REPEAT
6 ON-TIMER
7 ATR
8 T-REC
9 STAND BY
10 LED CONTROL Ⓗ
11 AT 5V
12 GND
13 P.CON 5V
14 KEY-A
15 REC
R8003 180
R8004 390
R8005 180
R8006 390
R8007 180
R8020 180
R8027 390
R8028 390
STAND BY D8001 SLZ336B-16A/B
T-REC D8002 SLZ-136C-11-AB
ATR D8003 SLZ336B-16A/B
ON-TIMER D8004 SLZ-136C-11-AB
REPEAT D8005 SLZ336B-16A/B
TAPE IN D8010 SLZ336B-16A/B
POWER D8009 SLZ-136C-11-AB
REC D8006 SLZ-136C-11-AB
C8003 0.022
R8019 2.2K
0.7
0
0
LED SW Q8018 2SC536
R8021 2.2K
C8002 16V47
R8001 10K
C8001 100P
R8002 1.5K
R8012 1.8K
R8018 2.7K
CH.UP SW8001
CH.DOWN SW8012
VOL.UP SW8011
VOL.DOWN SW8002
POWER ON/OFF SW8009
GND
DATA
B+
OS8001 GP1U781R
SW8001,2,9,11,12
EVQ21505R
PCB030 VE0558
VCR
FROM/TO SYSCON
CD8002
1 GND
2 LED CONTROL Ⓗ
3
4 PLAY
5 KEY-A
6
R8014 1.5K
STOP/EJECT SW8005
R8015 1.8K
REC/OTR SW8004
R8016 2.7K
PLAY SW8006
R8024 3.9K
R8025 6.8K
REW/REV SW8007
R8026 13K
FF/CUE SW8008
R8009 180
PLAY D8007 SLZ-336B-03AB
LED SW Q8011 DTC143EK
0
4.9
0
C8004 0.022
SW8004～8
EVQ21505R
PCB040 VE0564

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.
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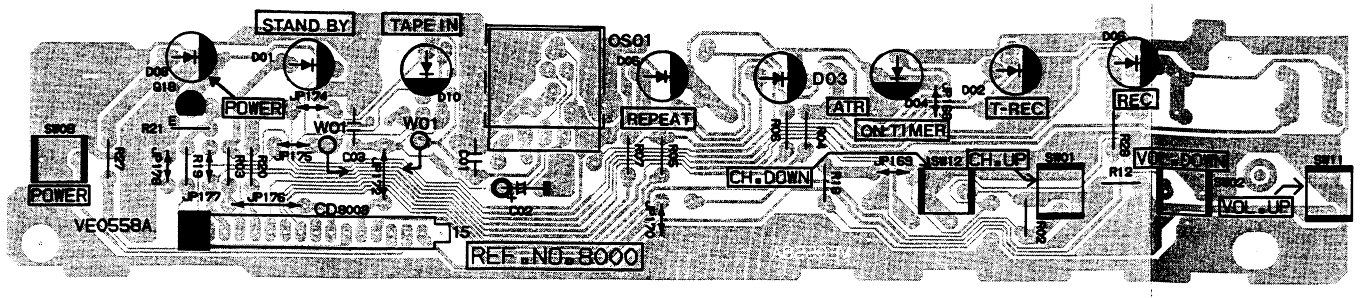
VCR PRINTED CIRCUIT BOARDS

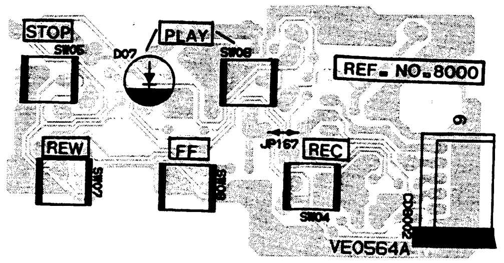
OPERATION 1

COMPONENT SIDE

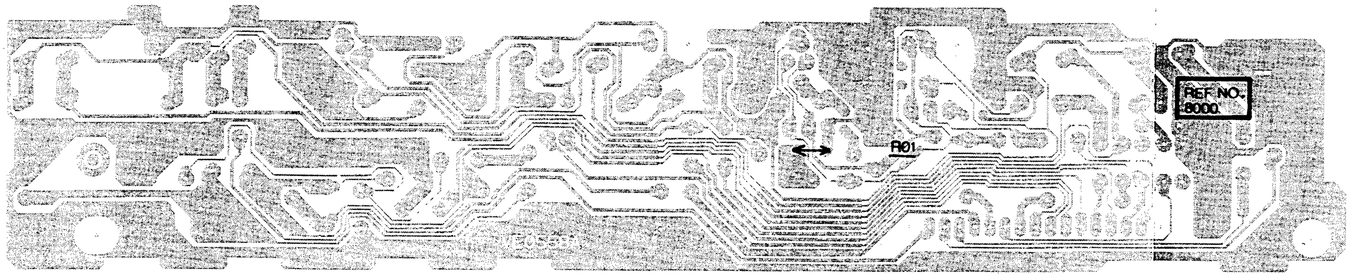

STAND BY
TAPE IN
D01
D08
D10
Q18
JP174
POWER
W01
W01
R21
OS01
REPEAT
D03
ATR
ON TIMER
D02
T-REC
D06
REC
CH. DOWN
JP169
CH. UP
SW01
R12
VOL. DOWN
VOL. UP
SW11
POWER
VE0558A
JP177
JP176
JP175
CD8003
15
REF. NO. 8000
R01
R02
C02
C03

OPERATION 2

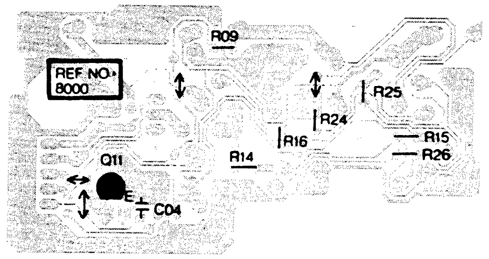
COMPONENT SIDE


STOP
SW05
D07
PLAY
SW06
REF. NO. 8000
REW
FF
JP167
REC
SW07
SW03
SW04
CD8002
VE0564A

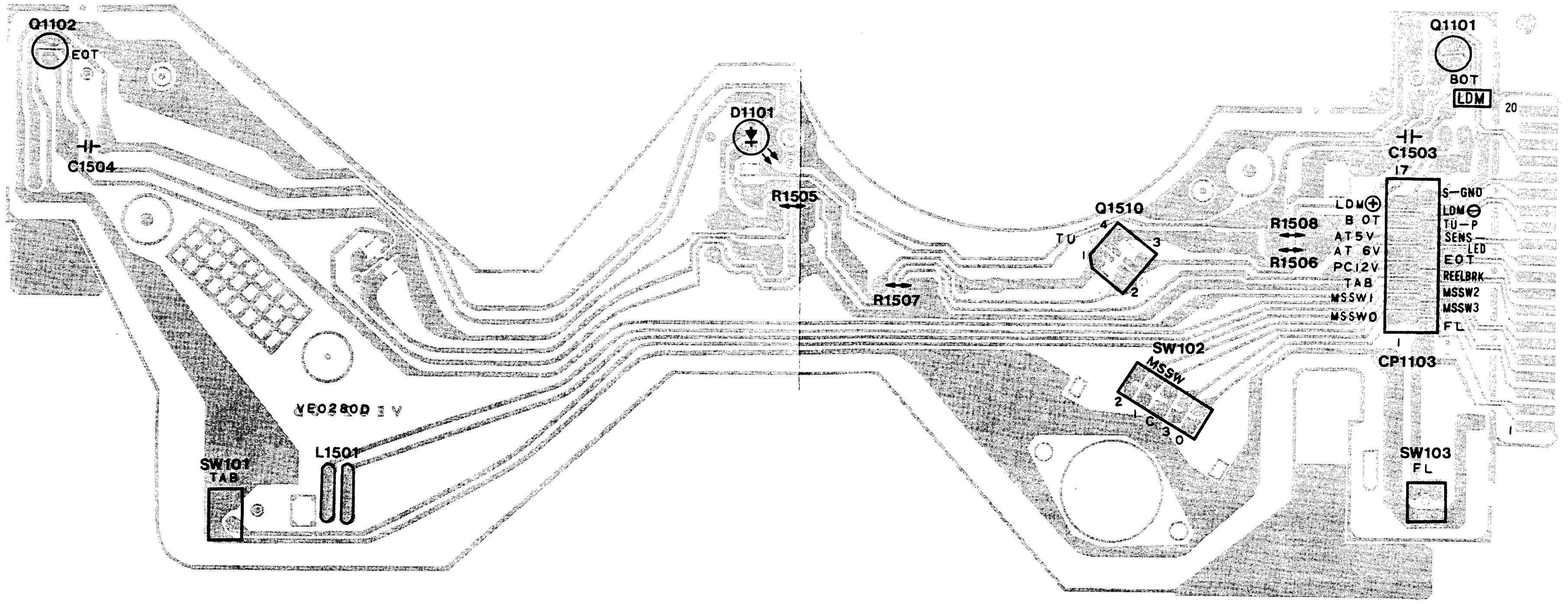
SOLDER SIDE


REF. NO. 8000
R01

SOLDER SIDE

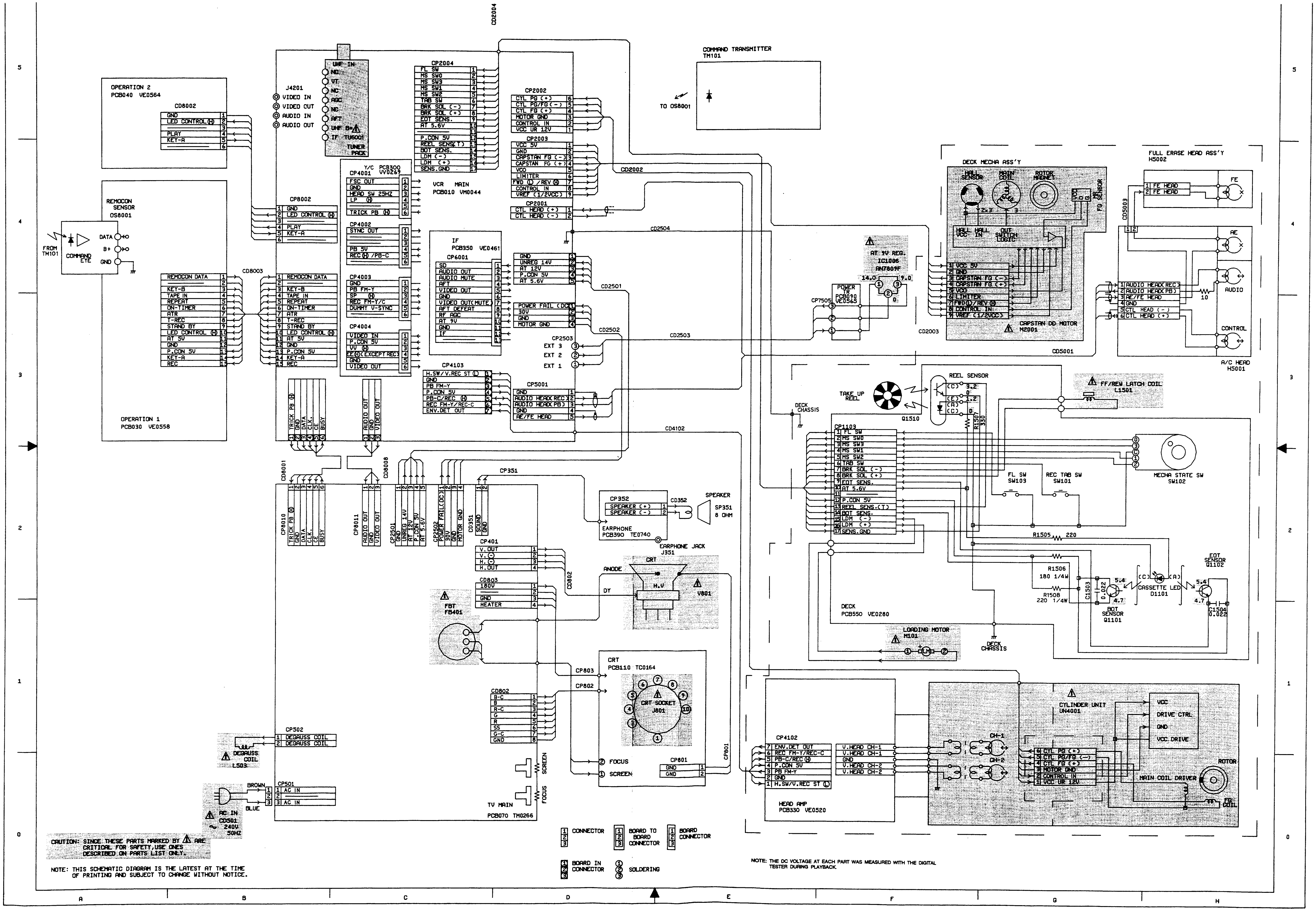

REF. NO. 8000
R09
R25
R24
R16
R14
R15
R26
Q11
E
C04

DECK


Q1102
EOT
C1504
D1101
R1505
R1507
Q1510
TU
R1508
R1506
Q1101
BOT
LDM
20
C1503
17
LDM⊕
B OT
AT 5V
AT 6V
PC12V
TAB
MSSW1
MSSW0
S-GND
LDM⊖
TU-P
SENS LED
EOT
REELBRK
MSSW2
MSSW3
FL
1
CP1103
SW102
MSSW
SW101
TAB
L1501
SW103
FL
VE0280D

MODEL: VX-T1410K

INTERCONNECTION DIAGRAM


OPERATION 2
PCB040 VE0564
CD8002
REMOCON SENSOR
OS8001
FROM TM101
COMMAND EYE
DATA
B+
GND
OPERATION 1
PCB030 VE0558
J4201
VIDEO IN
VIDEO OUT
AUDIO IN
AUDIO OUT
UHF IN
TUNER PACK
TU6001
CP8002
CD8003
Y/C PCB300 VV0269
CP4001
CP4002
CP4003
CP4004
CP2004
VCR MAIN
PCB010 VM0044
IF
PCB350 VE0461
CP6001
CP4103
CP2002
CP2003
CP2001
CD2004
CD2002
CD2504
CD2501
CD2502
CD2503
CP2503
CP5001
CD4102
EXT 3
EXT 2
EXT 1
COMMAND TRANSMITTER
TM101
TO OS8001
DECK MECHA ASS'Y
HALL SENSOR
MAIN COIL
ROTOR MAGNET
FG SENSOR
CAPSTAN DD MOTOR
M2001
CD2003
CD5001
CD5003
AT 9V REG.
IC1006
AN7809F
POWER TR
PCB090 VE0565
CP7505
FULL ERASE HEAD ASS'Y
H5002
FE
AE
AUDIO
CONTROL
A/C HEAD
H5001
REEL SENSOR
TAKE UP REEL
Q1510
FF/REW LATCH COIL
L1501
DECK CHASSIS
CP1103
MECHA STATE SW
SW102
FL SW
SW103
REC TAB SW
SW101
R1505 220
R1506 180 1/4W
R1508 220 1/4W
C1503 0.022
BOT SENSOR
Q1101
CASSETTE LED
D1101
EOT SENSOR
Q1102
C1504 0.022
DECK
PCB550 VE0280
LOADING MOTOR
M101
CD8001
CD8008
CP8010
CP8011
CP2501
CP2502
CD351
CP351
CP352
CD352
SPEAKER
SP351
8 OHM
EARPHONE
PCB390 TE0740
EARPHONE JACK
J351
CP401
CD803
CD802
CRT
ANODE
DY
V801
FBT
FB401
CP803
CP802
CRT
PCB110 TC0164
CRT SOCKET
J801
CP801
FOCUS
SCREEN
CP502
DEGAUSS COIL
L503
CP501
AC IN
CD501
240V
50HZ
BROWN
BLUE
TV MAIN
PCB070 TM0266
CP4102
HEAD AMP
PCB330 VE0520
CYLINDER UNIT
UN4001
CH-1
CH-2
VCC
DRIVE CTRL
GND
VCC DRIVE
MAIN COIL DRIVER
ROTOR
FG COIL

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED ON PARTS LIST ONLY.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

1 2 3 CONNECTOR

1 2 3 BOARD TO BOARD CONNECTOR

1 2 3 BOARD CONNECTOR

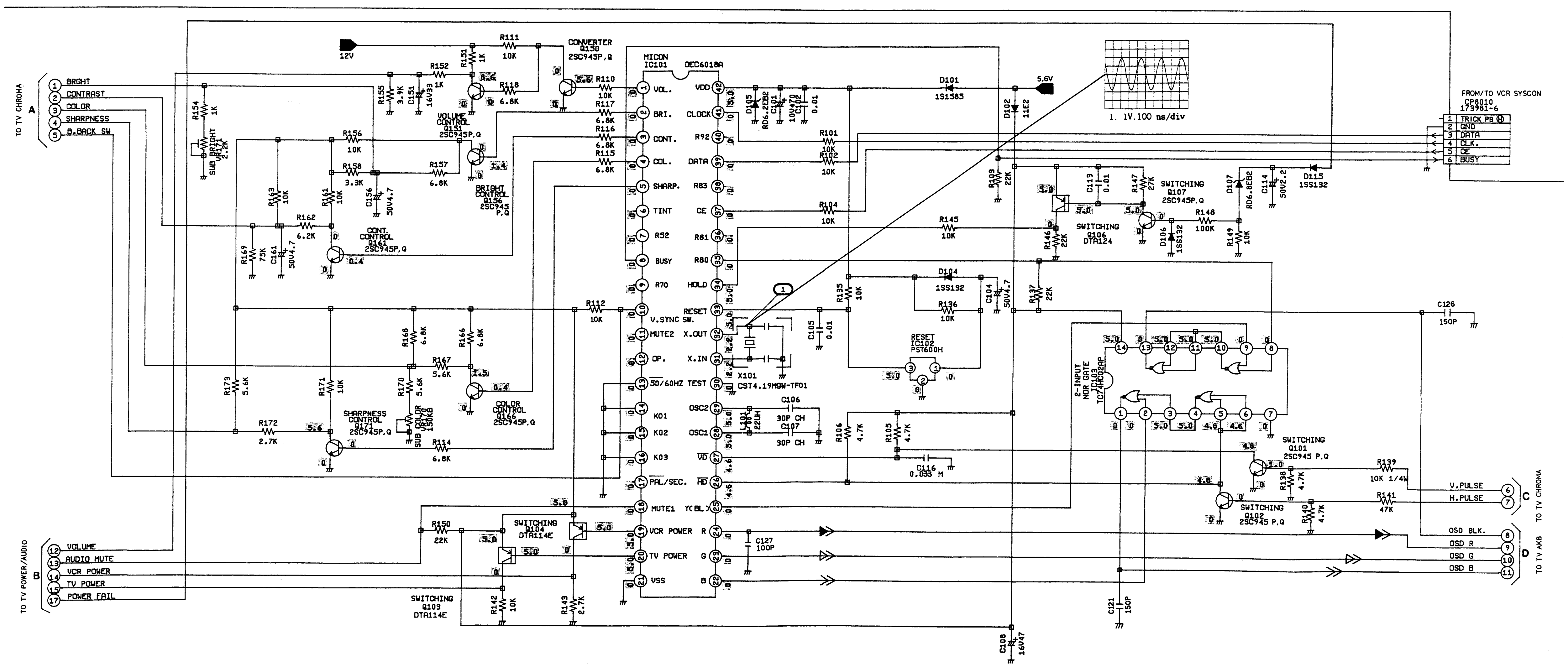
1 2 3 BOARD IN CONNECTOR

① ② ③ SOLDERING

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

MODEL: VX-T1400AE

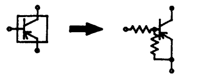
TV MICON SCHEMATIC DIAGRAM


TO TV CHROMA
A
① BRGHT
② CONTRAST
③ COLOR
④ SHARPNESS
⑤ B.BACK SW
12V
R111 10K
R151 1K
R152 1K
R155 3.9K
C151 16V33
R154 1K
SUB BRIGHT VR171 2.2K
VOLUME CONTROL Q151 2SC945P,Q
R118 6.8K
CONVERTER Q150 2SC945P,Q
R110 10K
R117 6.8K
R116 6.8K
R115 6.8K
R156 10K
R158 3.3K
R157 6.8K
C156 50V4.7
BRIGHT CONTROL Q156 2SC945 P,Q
R163 10K
R161 10K
R162 6.2K
R169 75K
C161 50V4.7
CONT. CONTROL Q161 2SC945P,Q
R168 6.8K
R166 6.8K
R167 5.6K
R173 5.6K
R171 10K
R170 5.6K
SUB COLOR VR170 150KB
COLOR CONTROL Q166 2SC945P,Q
R172 2.7K
SHARPNESS CONTROL Q171 2SC945P,Q
R114 6.8K
R112 10K
MICON IC101 OEC6018A
VOL.
BRI.
CONT.
COL.
SHARP.
TINT
R52
BUSY
R70
V.SYNC
MUTE2
OP.
50/60HZ
K01
K02
K03
PAL/SEC.
MUTE1
VCR POWER
TV POWER
VSS
VDD
CLOCK
R92
DATA
R83
CE
R81
R80
HOLD
RESET SW.
X.OUT
X.IN
TEST
OSC2
OSC1
VD
HD
Y(BL)
R
G
B
R150 22K
SWITCHING Q104 DTA114E
SWITCHING Q103 DTA114E
R142 10K
R143 2.7K
TO TV POWER/AUDIO
B
⑫ VOLUME
⑬ AUDIO MUTE
⑭ VCR POWER
⑮ TV POWER
⑰ POWER FAIL
D105 RD6.2EB2
C101 10V470
C102 0.01
D101 1S1585
5.6V
D102 11E2
1. 1V.100 ns/div
R101 10K
R102 10K
R104 10K
R103 22K
R145 10K
R135 10K
D104 1SS132
R136 10K
C104 50V4.7
R137 22K
C105 0.01
RESET IC102 PST600H
X101 CST4.19MGW-TF01
①
L101 22UH
C106 30P CH
C107 30P CH
R106 4.7K
R105 4.7K
C116 0.033 M
C127 100P
C108 16V47
C113 0.01
R147 27K
SWITCHING Q107 2SC945P.Q
SWITCHING Q106 DTA124
R146 22K
R148 100K
D106 1SS132
R149 10K
D107 RD6.8EB2
C114 50V2.2
D115 1SS132
FROM/TO VCR SYSCON CP8010 173981-6
1 TRICK PB
2 GND
3 DATA
4 CLK.
5 CE
6 BUSY
C126 150P
2-INPUT NOR GATE IC103 TC74HC02AP
SWITCHING Q101 2SC945 P,Q
R139 10K 1/4W
R138 4.7K
SWITCHING Q102 2SC945 P,Q
R140 4.7K
R141 47K
C121 150P
V.PULSE ⑥
H.PULSE ⑦
C
TO TV CHROMA
OSD BLK. ⑧
OSD R ⑨
OSD G ⑩
OSD B ⑪
D
TO TV AKB

PCB070 TM0266

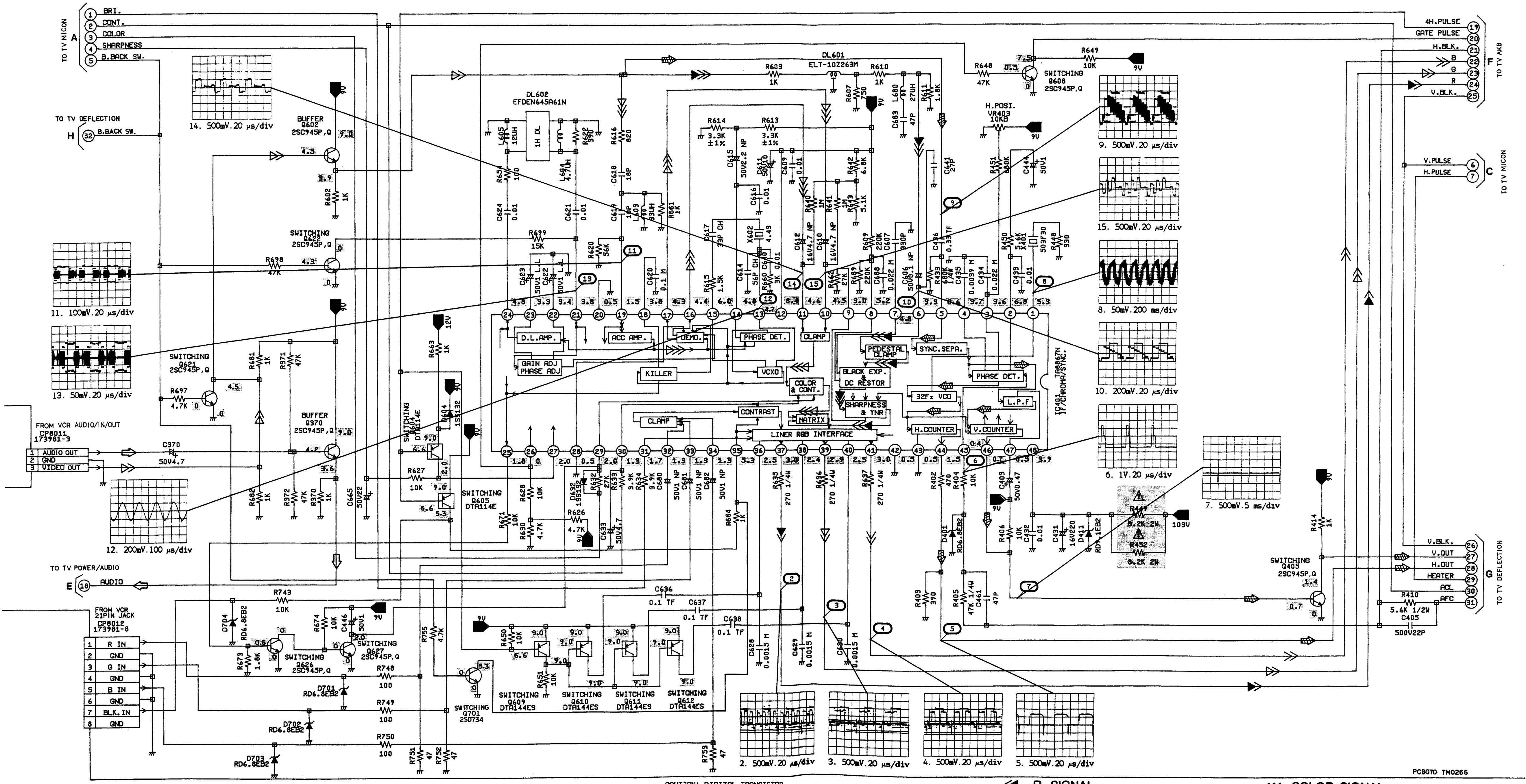
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.
THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE PAL COLOR BROADCAST WAS RECEIVED IN THE GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR



◀◀ R. SIGNAL
◁◁ G. SIGNAL
≪ B. SIGNAL

TV CHROMA SCHEMATIC DIAGRAM


TO TV MICON
A
BRI.
CONT.
COLOR
SHARPNESS
B.BACK SW.
TO TV DEFLECTION
H
B.BACK SW.
FROM VCR AUDIO/IN/OUT
CP8011
173981-3
AUDIO OUT
GND
VIDEO OUT
TO TV POWER/AUDIO
E
AUDIO
FROM VCR
21PIN JACK
CP8012
173981-8
R IN
GND
G IN
GND
B IN
GND
BLK. IN
GND
BUFFER Q602 2SC945P,Q
SWITCHING Q622 2SC945P,Q
SWITCHING Q621 2SC945P,Q
BUFFER Q370 2SC945P,Q
SWITCHING Q626 2SC945P,Q
SWITCHING Q627 2SC945P,Q
SWITCHING Q605 DTA114E
SWITCHING Q604 DTA114E
SWITCHING Q701 2SD734
SWITCHING Q609 DTA144ES
SWITCHING Q610 DTA144ES
SWITCHING Q611 DTA144ES
SWITCHING Q612 DTA144ES
SWITCHING Q608 2SC945P,Q
SWITCHING Q405 2SC945P,Q
DL602 EFDEN645A61N
1H DL
DL601 ELT-10Z263M
H.POSI. VR403 10KB
D.L.AMP.
GAIN ADJ PHASE ADJ
ACC AMP.
DEMO.
KILLER
PHASE DET.
VCXO
CLAMP
COLOR & CONT.
CONTRAST
MATRIX
LINER RGB INTERFACE
PEDESTAL CLAMP
BLACK EXP. DC RESTOR
SHARPNESS & TNR
SYNC.SEPA.
PHASE DET.
32Fн VCO
L.P.F
H.COUNTER
V.COUNTER
IC401 TA8867N IF/CHROMA/SYNC.
TO TV AKB
F
4H.PULSE
GATE PULSE
H.BLK.
B
G
R
V.BLK.
TO TV MICON
C
V.PULSE
H.PULSE
TO TV DEFLECTION
G
V.BLK.
V.OUT
H.OUT
HEATER
ACL
AFC
R410 5.6K 1/2W
C405 500V22P
R441 8.2K 2W
R452 8.2K 2W
103V
14. 500mV.20 µs/div
11. 100mV.20 µs/div
13. 50mV.20 µs/div
12. 200mV.100 µs/div
9. 500mV.20 µs/div
15. 500mV.20 µs/div
8. 50mV.200 ms/div
10. 200mV.20 µs/div
6. 1V.20 µs/div
7. 500mV.5 ms/div
2. 500mV.20 µs/div
3. 500mV.20 µs/div
4. 500mV.20 µs/div
5. 500mV.20 µs/div
PCB070 TM0266

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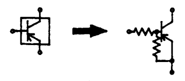
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED ON PARTS LIST ONLY.

CAUTION: DIGITAL TRANSISTOR

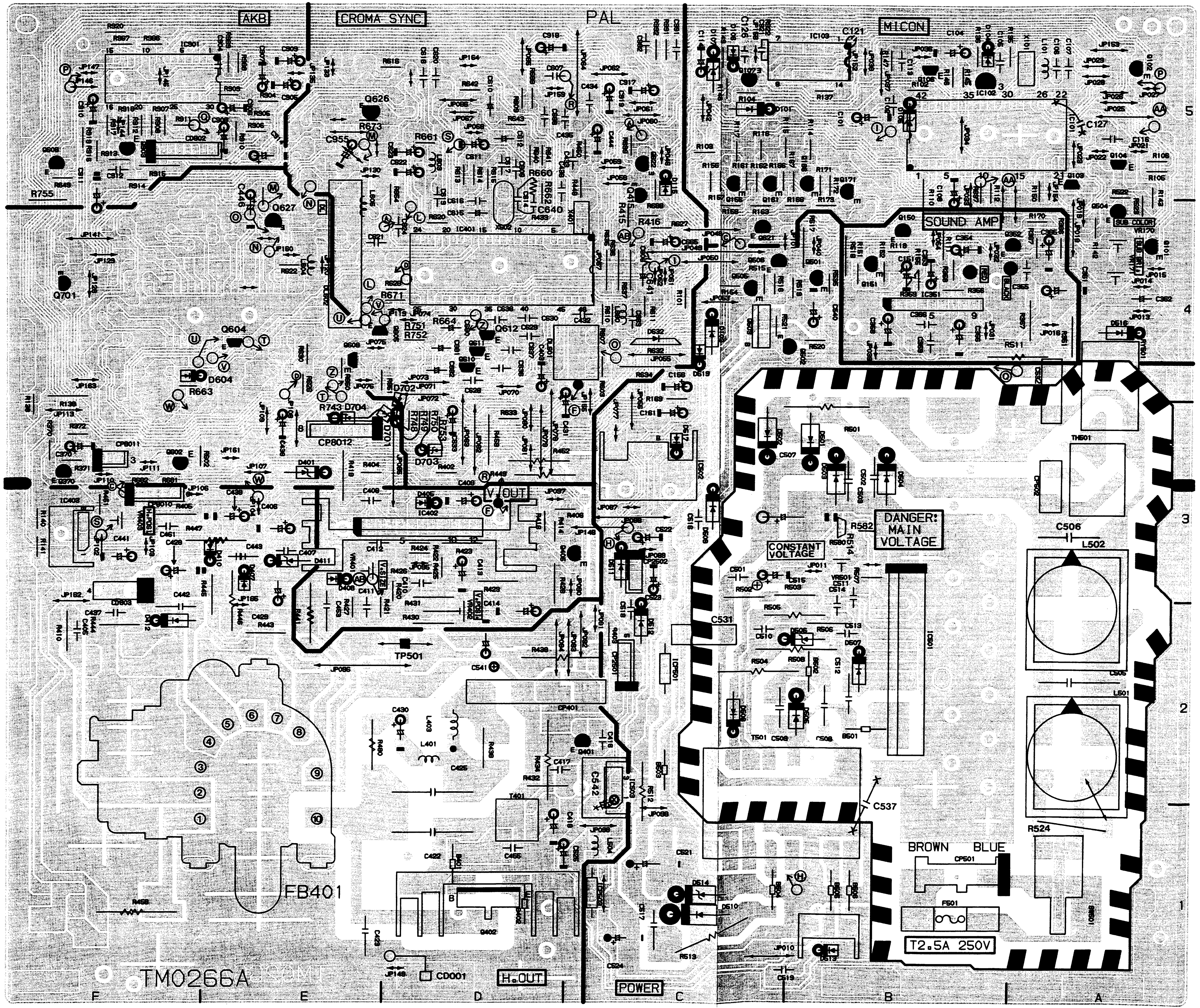


- ◀ R. SIGNAL
- ◁ VIF/G. SIGNAL
- ⇦ AUDIO SIGNAL
- ⋘ LUMINANCE SIGNAL
- ⋘ COLOR SIGNAL
- ≪ B. SIGNAL
- ⇚ DEFLECTION SIGNAL

MODEL: VX-T1400AE

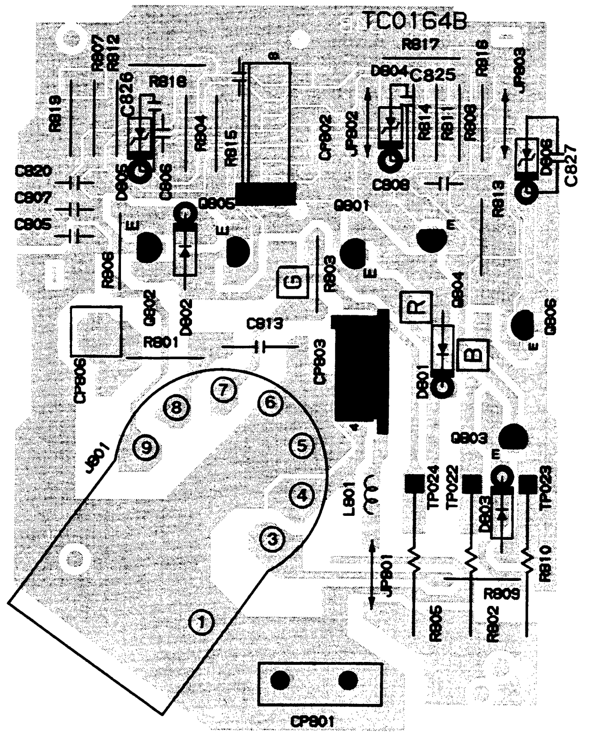
TV PRINTED CIRCUIT BOARDS

MAIN



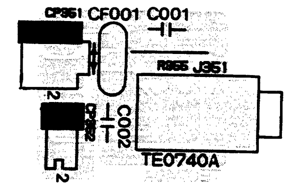
AKB
CROMA SYNC
PAL
MICON
SOUND AMP
V.OUT
DANGER: MAIN VOLTAGE
CONSTANT VOLTAGE
BROWN
BLUE
T2.5A 250V
FB401
TM0266A
H.OUT
POWER
CD001
TP501
R755
Q626
Q627
Q604
Q701
D604
R663
CP8012
C506
L502
L501
R524
C537
C531
C542
C121
C127
IC102
IC401
IC402
IC501
F501
5
4
3
2
1
F
E
D
C
B
A

CRT



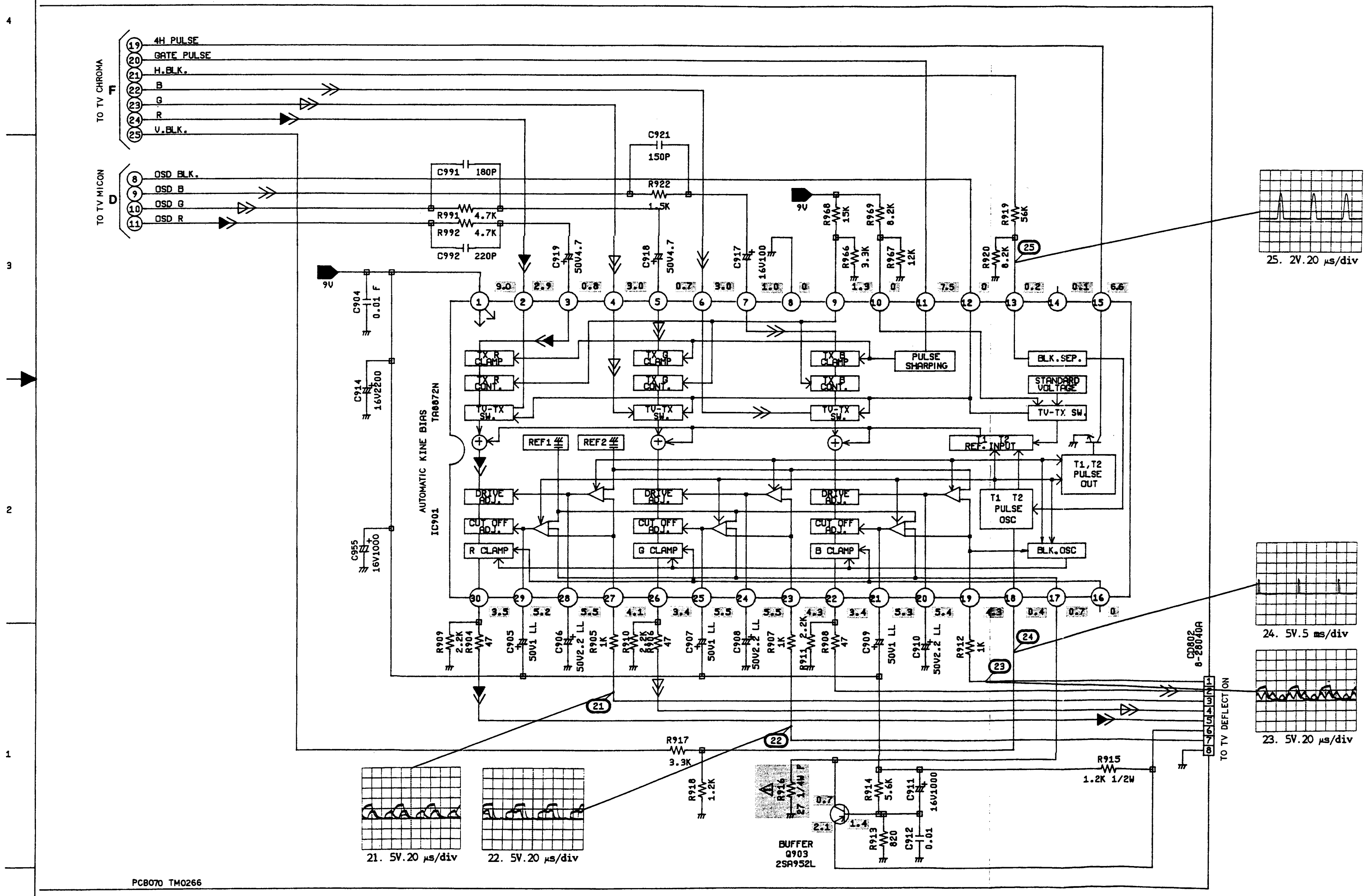
TC0164B
C825
C826
C827
CP801
L801
①
②
③
④
⑤
⑥
⑦
⑧
⑨

EARPHONE



CP351
CF001
C001
C002
J351
TE0740A

TV AKB SCHEMATIC DIAGRAM


TO TV CHROMA
F
19 4H PULSE
20 GATE PULSE
21 H.BLK.
22 B
23 G
24 R
25 V.BLK.
TO TV MICON
D
8 OSD BLK.
9 OSD B
10 OSD G
11 OSD R
C991 180P
R991 4.7K
R992 4.7K
C992 220P
C921 150P
R922 1.5K
C919 50V4.7
C918 50V4.7
C917 16V100
9V
R968 15K
R969 8.2K
R966 3.3K
R967 12K
R919 56K
R920 8.2K
C904 0.01 F
C914 16V2200
C955 16V1000
AUTOMATIC KINE BIAS
TA8872N
IC901
TX R CLAMP
TX R CONT.
TV-TX SW.
TX G CLAMP
TX G CONT.
TX B CLAMP
TX B CONT.
PULSE SHARPING
BLK.SEP.
STANDARD VOLTAGE
REF1
REF2
T1 T2 REF. INPUT
T1,T2 PULSE OUT
T1 T2 PULSE OSC
DRIVE ADJ.
CUT OFF ADJ.
R CLAMP
G CLAMP
B CLAMP
BLK.OSC
9.0
2.9
0.8
3.0
0.7
3.0
1.0
0
1.3
0
7.5
0
0.2
0.1
6.6
3.3
5.2
5.5
4.1
3.4
5.5
5.3
4.3
3.4
5.3
5.4
3
0.4
0.7
0
R909 2.2K
R904 47
C905 50V1 LL
C906 50V2.2 LL
R905 1K
R910 2.2K
R906 47
C907 50V1 LL
C908 50V2.2 LL
R907 1K
R911 2.2K
R908 47
C909 50V1 LL
C910 50V2.2 LL
R912 1K
CD802 8-28040A
TO TV DEFLECTION
R917 3.3K
R918 1.2K
R916 27 1/4W F
0.7
2.1
1.4
BUFFER
Q903
2SA952L
R914 5.6K
C911 16V1000
R913 820
C912 0.01
R915 1.2K 1/2W
21
22
23
24
25
21. 5V.20 µs/div
22. 5V.20 µs/div
23. 5V.20 µs/div
24. 5V.5 ms/div
25. 2V.20 µs/div
PC8070 TM0266

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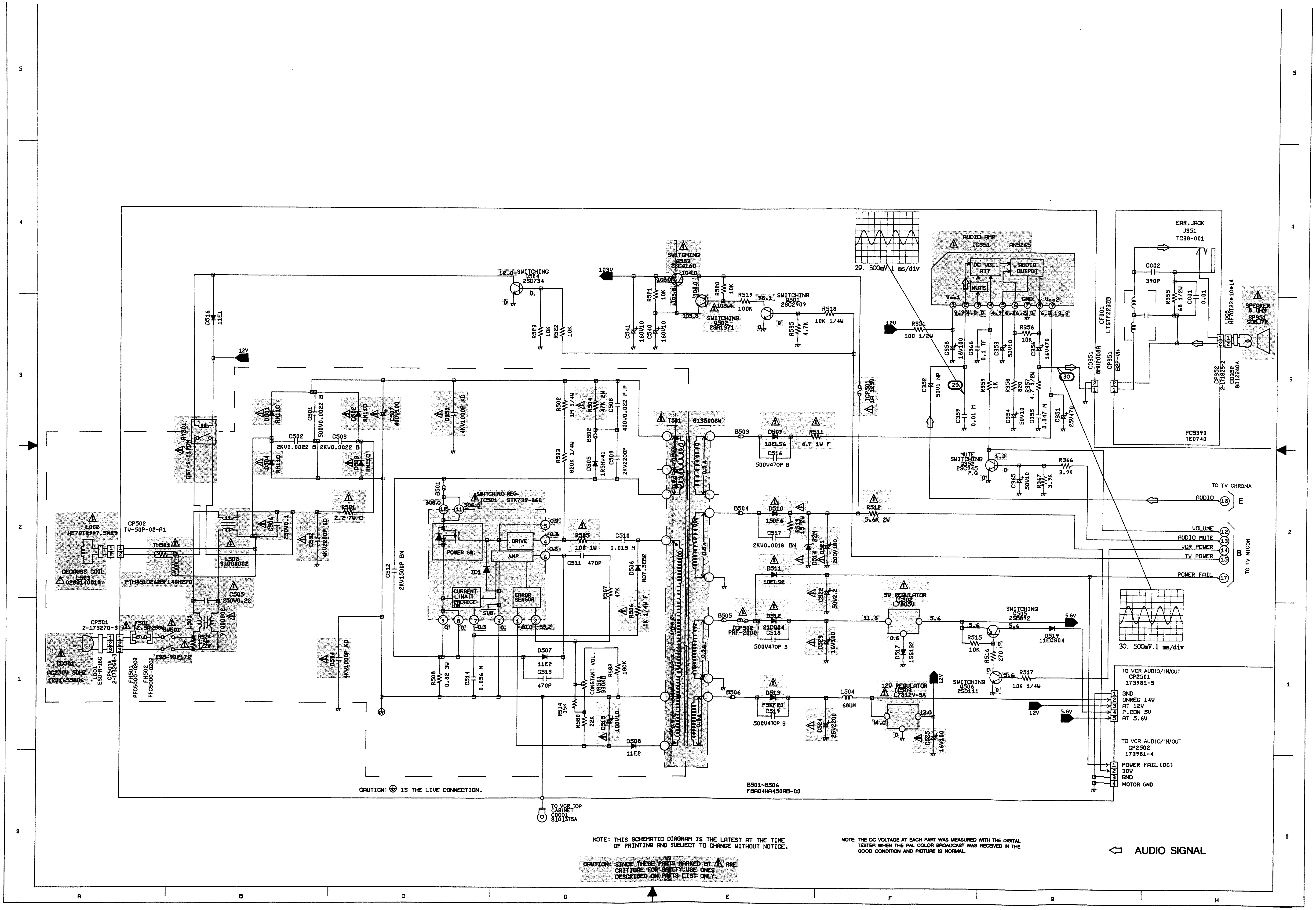
◀◀ R. SIGNAL
◁◀ G. SIGNAL
≪ B. SIGNAL

MODEL: VX-T1400AE

TV POWER/AUDIO SCHEMATIC DIAGRAM


SWITCHING Q504 2SD734
SWITCHING Q503 2SC4160
SWITCHING Q502 2SA1371
SWITCHING Q501 2SC2909
103V
12V
AUDIO AMP IC351 AN5265
DC VOL. ATT
AUDIO OUTPUT
MUTE
Vcc1
GND
Vcc2
EAR.JACK J351 TC38-001
SPEAKER 8 OHM SP351 S06J72
29. 500mV/.1 ms/div
30. 500mV/.1 ms/div
MUTE SWITCHING Q352 2SC945 P.Q
TO TV CHROMA
AUDIO
TO TV MICON
VOLUME
AUDIO MUTE
VCR POWER
TV POWER
POWER FAIL
T501 6135008W
SWITCHING REG. IC501 STK730-060
POWER SW.
DRIVE
AMP
CURRENT LINAIT PROTECT-OR
ERROR SENSOR
SUB
L002 HF70T29*7.5*19
DEGAUSS COIL L503 0289140018
TH501 PTH451C262BF140H270
CP502 TV-50P-02-A1
CP501 2-173270-3
F501 T2.5A 250V
SW501 ESB-98217S
CD501 AC230V 50HZ 1201655806
RY501 OBT-S-112DM
5V REGULATOR IC502 L7805V
12V REGULATOR IC503 L7812V-SA
SWITCHING Q505 2SB892
SWITCHING Q506 2SD111
ICP501 1A 125V
ICP502 PRF-2000
TO VCR AUDIO/IN/OUT CP2501 173981-5
GND
UNREG 14V
AT 12V
P.CON 5V
AT 5.6V
TO VCR AUDIO/IN/OUT CP2502 173981-4
POWER FAIL (DC)
30V
GND
MOTOR GND
CAUTION: ⏚ IS THE LIVE CONNECTION.
TO VCR TOP CABINET C0001 8101375A
B501~B506 FBA04HA450AB-00
PCB390 TE0740
A
B
C
D
E
F
G
H
0
1
2
3
4
5

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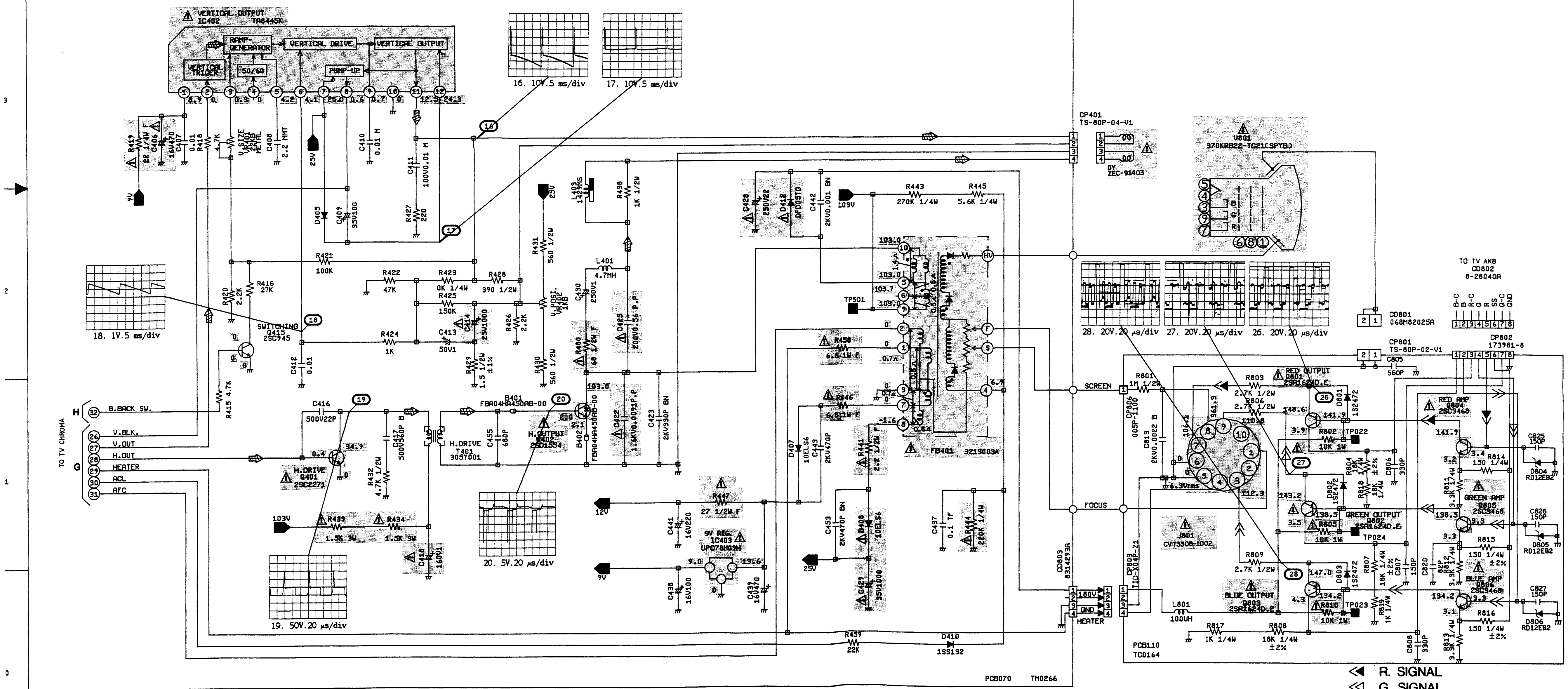
⇦ AUDIO SIGNAL

TV DEFLECTION SCHEMATIC DIAGRAM


VERTICAL OUTPUT
IC402 TA8445K
RAMP-GENERATOR
VERTICAL DRIVE
VERTICAL OUTPUT
VERTICAL TRIGER
50/60
PUMP-UP
8.9
0
0.3
0
4.2
4.1
25.0
0.6
0.7
0
12.5
24.3
16. 10V.5 ms/div
17. 10V.5 ms/div
18. 1V.5 ms/div
19. 50V.20 µs/div
20. 5V.20 µs/div
28. 20V.20 µs/div
27. 20V.20 µs/div
26. 20V.20 µs/div
R419 22 1/4W F
C406 16V470
C407 0.01
R418 4.7K
V.SIZE VR401 22KB METAL
C408 2.2 MMT
25V
C410 0.01 M
C411 100V0.01 M
9V
D405
C409 35V100
R427 220
L403 1429MS
R438 1K 1/2W
R431 560 1/2W
R421 100K
R416 27K
R420 2.2K
R422 47K
R423 0K 1/4W
R425 150K
R428 390 1/2W
L401 4.7MH
C430 250V1
C425 200V0.56 P.P
V.POSI. VR402 1KB
R426 2.2K
C414 25V1000
SWITCHING Q415 2SC945
R424 1K
C413 50V1
C412 0.01
R429 1.5 1/2W ±1%
R430 560 1/2W
R480 68 1/2W F
103.0
R415 4.7K
TO TV CHROMA
H
G
B.BACK SW.
V.BLK.
V.OUT
H.OUT
HEATER
ACL
AFC
C416 500V22P
34.9
0.4
H.DRIVE Q401 2SC2271
C417 500V560P B
R432 4.7K 1/2W
H.DRIVE T401 305Y001
B401 FBA04HA450AB-00
C455 680P
H.OUTPUT Q402 2SD1554
2.0
2.1
B402 FBA04HA450AB-00
C422 1.6KV0.0091P.P
C423 2KV330P BN
103V
R439 1.5K 3W
R434 1.5K 3W
C418 160V1
12V
C441 16V220
R447 27 1/2W F
9V REG. IC403 UPC78M09H
9.0
13.6
C438 16V100
C439 16V470
C428 250V22
D412 DFD05TG
C442 2KV0.001 BN
R443 270K 1/4W
R445 5.6K 1/4W
103.7
TP501
R458 6.8 1W F
R446 6.8 1W F
0.7Ω
-1.6
0.6Ω
0.5Ω
1.4Ω
HV
F
S
6.9
FB401 3219003A
D407 10ELS6
C443 2KV470P
R441 2.2 1/2W F
C453 2KV470P BN
D408 10ELS6
C427 35V1000
C437 0.1 TF
R444 220K 1/4W
R459 22K
D410 1SS132
PCB070 TM0266
CP401 TS-80P-04-V1
DY ZEC-91403
V801 370KRB22-TC21(SPYB)
B
G
R
SCREEN
FOCUS
CD803 8314293A
180V
GND
HEATER
TO TV AKB CD802 8-28040A
B-C B R-C G R SS G-C GND
CD801 068M82025A
CP801 TS-80P-02-V1
CP802 173981-8
C805 560P
R801 1M 1/2W
CP806 005P-1100
C813 2KV0.0022 B
R803 2.7K 1/2W
R806 2.7K 1/2W
RED OUTPUT Q801 2SA1624D.E
D801 1S2472
361.9
106.1
110.8
148.6
141.9
3.9
R802 10K 1W
TP022
R804 18K 1/4W ±2%
C806 330P
D802 1S2472
R818 18K 1/4W
6.3Vrms
112.3
143.2
138.5
3.5
R805 10K 1W
GREEN OUTPUT Q802 2SA1624D.E
TP024
J801 CVT3308-1002
R809 2.7K 1/2W
147.0
D803 1S2472
R807 18K 1/4W ±2%
C807 150P
C820 82P
BLUE OUTPUT Q803 2SA1624D.E
134.2
4.3
R810 10K 1W
TP023
R819 1K 1/4W
CP803 TID-X04P-Z1
L801 100UH
R817 1K 1/4W
R808 18K 1/4W ±2%
C808 330P
PCB110 TC0164
RED AMP Q804 2SC3468
3.2
3.4
R814 150 1/4W
C825 150P
D804 RD12EB2
R811 3.3K 1/4W
GREEN AMP Q805 2SC3468
3.3
R815 150 1/4W ±2%
C826 150P
D805 RD12EB2
R812 3.3K 1/4W
BLUE AMP Q806 2SC3468
3.1
R816 150 1/4W ±2%
C827 150P
D806 RD12EB2
R813 3.3K 1/4W

⪡ R. SIGNAL
⪡ G. SIGNAL
≪ B. SIGNAL
⇦ DEFLECTION SIGNAL

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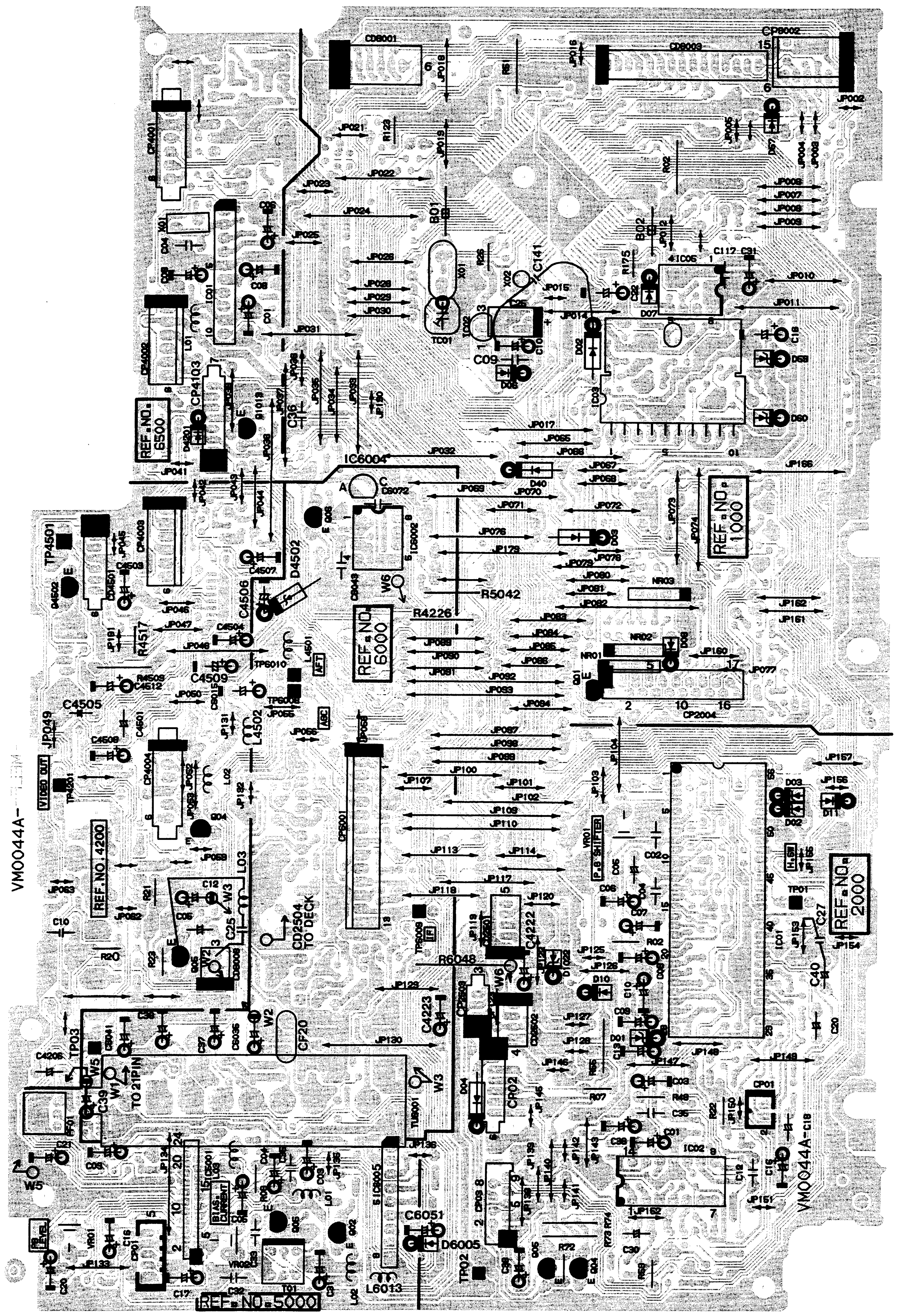
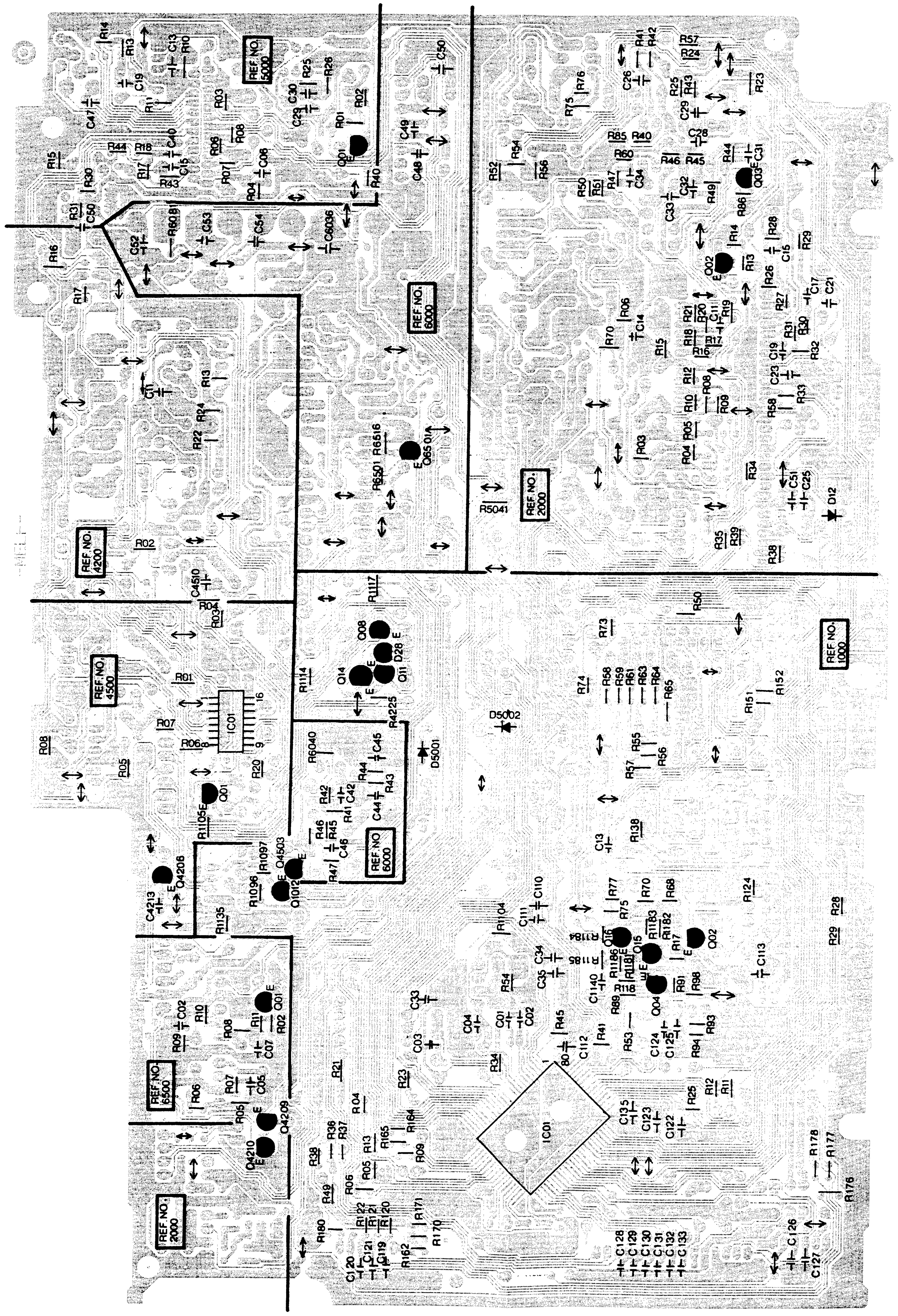
VCR PRINTED CIRCUIT BOARDS

MAIN

COMPONENT SIDE

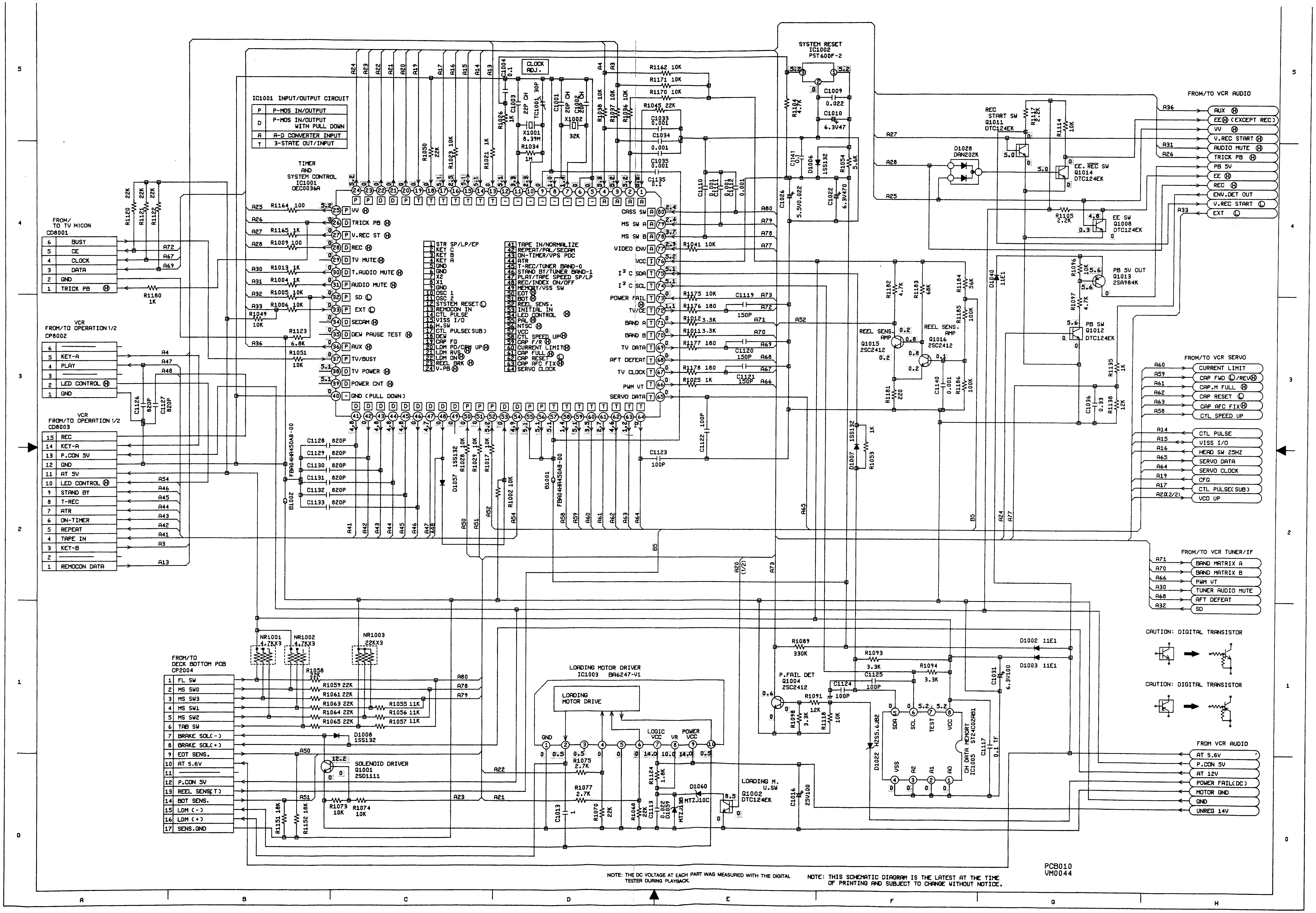

REF. NO. 6500
REF. NO. 1000
REF. NO. 6000
REF. NO. 4200
REF. NO. 2000
REF. NO. 5000
IC6004
R5042
R4226
CD2504 TO DECK
TO 21PIN
VIDEO OUT
VM0044A-
VM0044A-C18
L6013
D6005
C6051
R6048
CF20
W2
W3
W5
W6

SOLDER SIDE


REF. NO. 5000
REF. NO. 6000
REF. NO. 2000
REF. NO. 4200
REF. NO. 4500
REF. NO. 1000
REF. NO. 6500
IC01
D5001
D5002
R5041

MODEL: VX-T1400AE

VCR SYSTEM CONTROL SCHEMATIC DIAGRAM

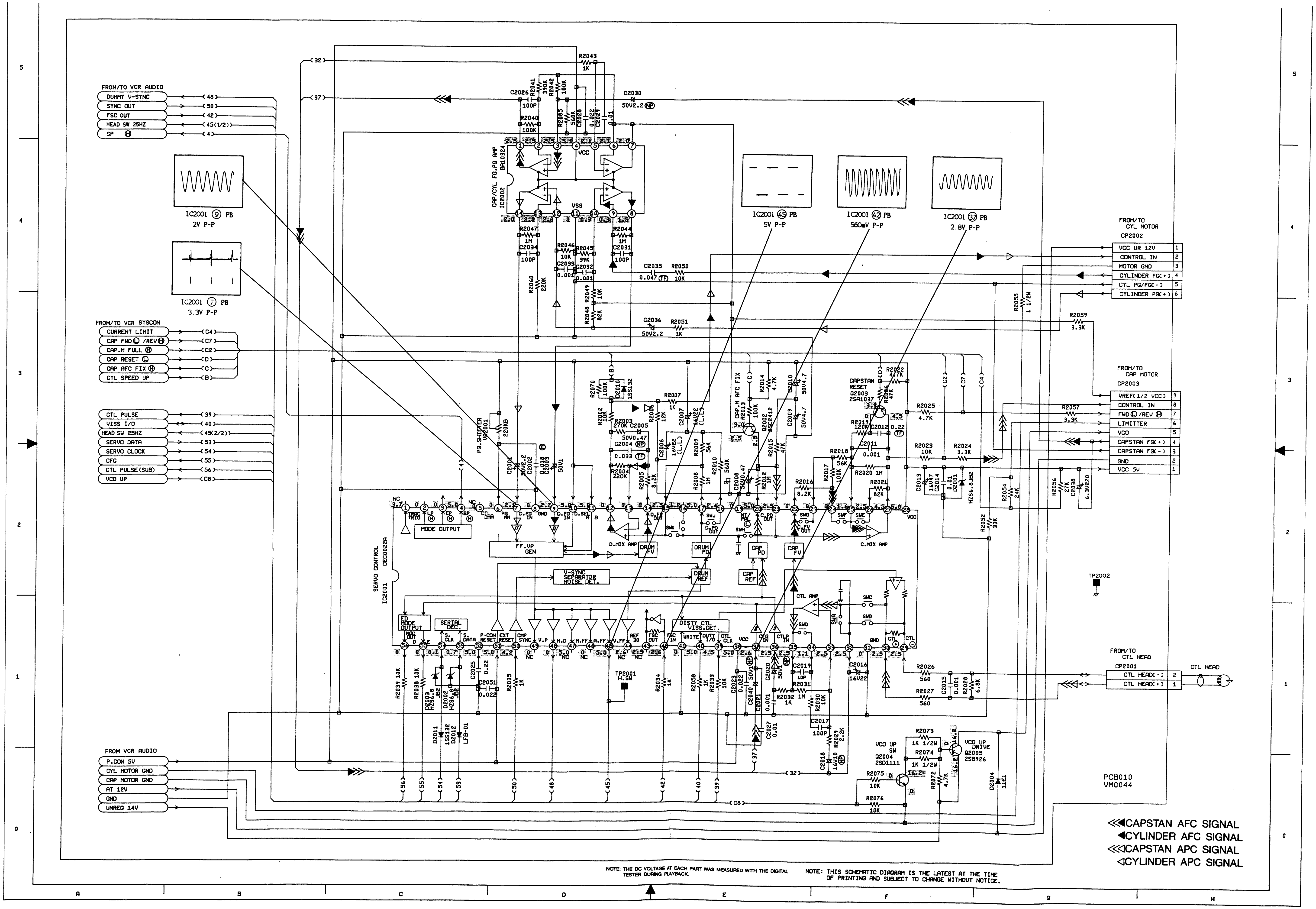

IC1001 INPUT/OUTPUT CIRCUIT
P P-MOS IN/OUTPUT
D P-MOS IN/OUTPUT WITH PULL DOWN
A A-D CONVERTER INPUT
T 3-STATE OUT/INPUT
TIMER AND SYSTEM CONTROL IC1001 QEC0036A
CLOCK ADJ.
X1001 8.39M
X1002 32K
SYSTEM RESET IC1002 PST600F-2
FROM/TO TV MICON CD8001
BUSY
CE
CLOCK
DATA
GND
TRICK PB
VCR FROM/TO OPERATION 1/2 CP8002
KEY-A
PLAY
LED CONTROL
GND
VCR FROM/TO OPERATION 1/2 CD8003
REC
KEY-A
P.CON 5V
GND
AT 5V
LED CONTROL
STAND BY
T-REC
ATR
ON-TIMER
REPEAT
TAPE IN
KEY-B
REMOCON DATA
1 STR SP/LP/EP
2 KEY C
3 KEY B
4 KEY A
5 GND
6 GND
7 X2
8 X1
9 GND
10 OSC 1
11 OSC 2
12 SYSTEM RESET
13 REMOCON IN
14 CTL PULSE
15 VISS I/O
16 H.SW
17 CTL PULSE(SUB)
18 DEW
19 CAP FG
20 LDM PD/CDM UP
21 LDM RVS
22 LDM ON
23 REEL BRK
24 V.PB
41 TAPE IN/NORMALIZE
42 REPEAT/PAL/SECAM
43 ON-TIMER/VPS PDC
44 ATR
45 T-REC/TUNER BAND-0
46 STAND BY/TUNER BAND-1
47 PLAY/TAPE SPEED SP/LP
48 REC/INDEX ON/OFF
49 MEMORY/VSS SW
50 EOT
51 BOT
52 REEL SENS.
53 INITIAL IN
54 LED CONTROL
55 PAL
56 NTSC
57 VCC
58 CYL SPEED UP
59 CAP F/R
60 CURRENT LIMIT
61 CAP FULL
62 CAP RESET
63 CAP AFC FIX
64 SERVO CLOCK
VV
TRICK PB
V.REC ST
REC
TV MUTE
T.AUDIO MUTE
AUDIO MUTE
SD
EXT
SECAM
DEW PAUSE TEST
AUX
TV/BUSY
TV POWER
POWER CNT
GND (PULL DOWN)
CASS SW
MS SW A
MS SW B
VIDEO ENV
VCC
I² C SDA
I² C SCL
POWER FAIL
TV/CE
BAND A
BAND B
TV DATA
AFT DEFEAT
TV CLOCK
PWM VT
SERVO DATA
FROM/TO VCR AUDIO
AUX
EE (EXCEPT REC)
VV
V.REC START
AUDIO MUTE
TRICK PB
PB 5V
EE
REC
ENV.DET OUT
V.REC START
EXT
REC START SW Q1011 DTC124EK
EE.REC SW Q1014 DTC124EK
EE SW Q1008 DTC124EK
PB 5V OUT Q1013 2SA984K
PB SW Q1012 DTC124EK
REEL SENS. AMP Q1015 2SC2412
REEL SENS. AMP Q1016 2SC2412
FROM/TO VCR SERVO
CURRENT LIMIT
CAP FWD/REV
CAP.M FULL
CAP RESET
CAP AFC FIX
CYL SPEED UP
CTL PULSE
VISS I/O
HEAD SW 25HZ
SERVO DATA
SERVO CLOCK
CFG
CTL PULSE(SUB)
VCO UP
FROM/TO VCR TUNER/IF
BAND MATRIX A
BAND MATRIX B
PWM VT
TUNER AUDIO MUTE
AFT DEFEAT
SD
CAUTION: DIGITAL TRANSISTOR
FROM/TO DECK BOTTOM PCB CP2004
FL SW
MS SW0
MS SW3
MS SW1
MS SW2
TAB SW
BRAKE SOL(-)
BRAKE SOL(+)
EOT SENS.
AT 5.6V
P.CON 5V
REEL SENS(T)
BOT SENS.
LDM (-)
LDM (+)
SENS.GND
NR1001 4.7KX3
NR1002 4.7KX3
NR1003 22KX3
SOLENOID DRIVER Q1001 2SD1111
LOADING MOTOR DRIVER IC1003 BA6247-V1
LOADING MOTOR DRIVE
GND
LOGIC VCC
VR
POWER VCC
LOADING M. U.SW Q1002 DTC124EK
P.FAIL DET Q1004 2SC2412
CH DATA MEMORY IC1005 ST24C02AB1
SDA
SCL
TEST
VCC
VSS
A2
A1
A0
FROM VCR AUDIO
AT 5.6V
P.CON 5V
AT 12V
POWER FAIL(DC)
MOTOR GND
GND
UNREG 14V
PCB010 VM0044

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL: VX-T1400AE

VCR SERVO SCHEMATIC DIAGRAM


FROM/TO VCR AUDIO
DUMMY V-SYNC
SYNC OUT
FSC OUT
HEAD SW 25HZ
SP Ⓗ
IC2001 ⑨ PB
2V P-P
IC2001 ⑦ PB
3.3V P-P
FROM/TO VCR SYSCON
CURRENT LIMIT
CAP FWDⓁ/REVⒽ
CAP.M FULL Ⓗ
CAP RESET Ⓛ
CAP AFC FIX Ⓗ
CYL SPEED UP
CTL PULSE
VISS I/O
HEAD SW 25HZ
SERVO DATA
SERVO CLOCK
CFG
CTL PULSE(SUB)
VCO UP
CAP/CYL FG.PG AMP BA10324 IC2002
IC2001 ㊺ PB
5V P-P
IC2001 ㊷ PB
560mV P-P
IC2001 ㊲ PB
2.8V P-P
FROM/TO CYL MOTOR
CP2002
VCC UR 12V
CONTROL IN
MOTOR GND
CYLINDER FG(+)
CYL PG/FG(-)
CYLINDER PG(+)
FROM/TO CAP MOTOR
CP2003
VREF(1/2 VCC)
CONTROL IN
FWDⓁ/REVⒽ
LIMITTER
VCO
CAPSTAN FG(+)
CAPSTAN FG(-)
GND
VCC 5V
CAPSTAN RESET Q2003 2SA1037
PG.SHIFTER VR2001
SERVO CONTROL DEC0022A IC2001
MODE OUTPUT
FF.VP GEN
D.MIX AMP
DRUM FV
DRUM PD
CAP PD
CAP FV
C.MIX AMP
V-SYNC SEPARATOR NOISE DET.
DRUM REF
CAP REF
CTL AMP
ED MODE OUTPUT
SERIAL DEC.
DISTY CTL VISS.DET.
TP2001 H.SW
TP2002
FROM/TO CTL HEAD
CP2001
CTL HEAD(-)
CTL HEAD(+)
CTL HEAD
VCO UP SW Q2004 2SD1111
VCO UP DRIVE Q2005 2SB926
FROM VCR AUDIO
P.CON 5V
CYL MOTOR GND
CAP MOTOR GND
AT 12V
GND
UNREG 14V
PCB010
VM0044

⋘CAPSTAN AFC SIGNAL
◀CYLINDER AFC SIGNAL
⋘CAPSTAN APC SIGNAL
◁CYLINDER APC SIGNAL

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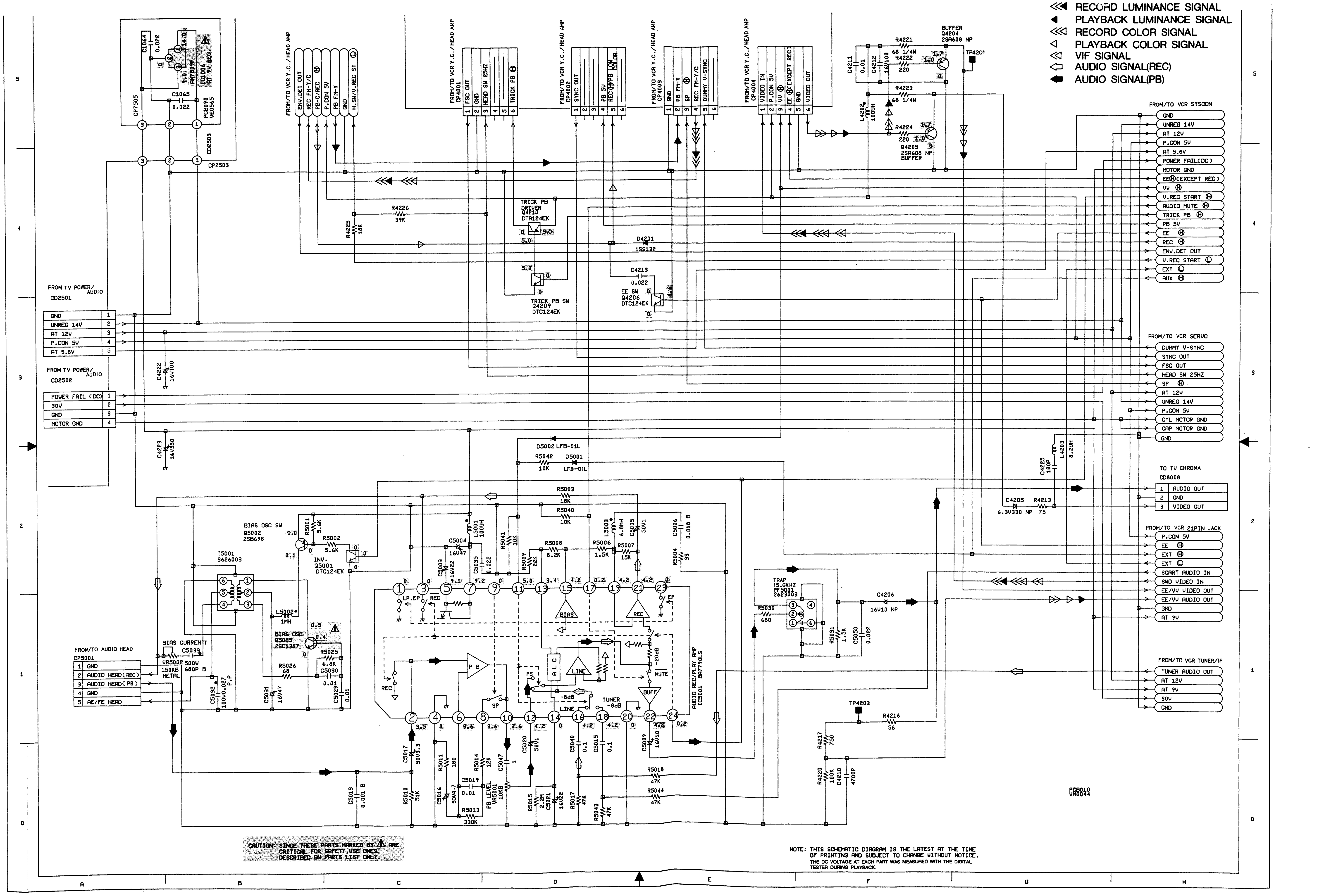
MODEL: VX-T1400AE

VCR AUDIO SCHEMATIC DIAGRAM



FROM/TO VCR Y.C./HEAD AMP
ENV.DET OUT
REC FM-Y/C
PB-C/REC H
P.CON 5V
PB FM-Y
GND
H.SW/V.REC ST L
CP4001
FSC OUT
HEAD SW 25HZ
TRICK PB H
CP4002
SYNC OUT
PB 5V
REC H/PB LOW
CP4003
SP H
REC FM-Y/C
DUMMY V-SYNC
CP4004
VIDEO IN
VV H
EE H (EXCEPT REC)
VIDEO OUT
C1064 0.022
C1065 0.022
IC1006 AN7809F AT 9V REG.
PCB090 VE0565
CP7505
CD2503
CP2503
R4226 39K
R4225 10K
TRICK PB DRIVER Q4210 DTA124EK
TRICK PB SW Q4209 DTC124EK
D4201 1SS132
C4213 0.022
EE SW Q4206 DTC124EK
BUFFER Q4204 2SA608 NP
R4221 68 1/4W
R4222 220
C4211 0.01
C4212 16V100
TP4201
R4223 68 1/4W
L4202 100UH
R4224 220
Q4205 2SA608 NP BUFFER
FROM/TO VCR SYSCON
GND
UNREG 14V
AT 12V
P.CON 5V
AT 5.6V
POWER FAIL(DC)
MOTOR GND
EE H (EXCEPT REC)
VV H
V.REC START H
AUDIO MUTE H
TRICK PB H
PB 5V
EE H
REC H
ENV.DET OUT
V.REC START L
EXT L
AUX H
FROM TV POWER/AUDIO
CD2501
GND
UNREG 14V
AT 12V
P.CON 5V
AT 5.6V
FROM TV POWER/AUDIO
CD2502
POWER FAIL (DC)
30V
GND
MOTOR GND
C4222 16V100
C4223 16V330
FROM/TO VCR SERVO
DUMMY V-SYNC
SYNC OUT
FSC OUT
HEAD SW 25HZ
SP H
AT 12V
UNREG 14V
P.CON 5V
CYL MOTOR GND
CAP MOTOR GND
GND
C4225 100P
L4203 8.2UH
TO TV CHROMA
CD8008
AUDIO OUT
GND
VIDEO OUT
C4205 6.3V330 NP
R4213 75
FROM/TO VCR 21PIN JACK
P.CON 5V
EE H
EXT H
EXT L
SCART AUDIO IN
SWD VIDEO IN
EE/VV VIDEO OUT
EE/VV AUDIO OUT
GND
AT 9V
D5002 LFB-01L
R5042 10K
D5001 LFB-01L
R5003 18K
R5040 10K
BIAS OSC SW Q5002 2SB698
R5001 5.6K
R5002 5.6K
INV. Q5001 DTC124EK
T5001 3626003
C5004 16V47
L5001 100UH
C5035 0.022
C5003 16V22
R5041 10K
R5009 22K
R5008 8.2K
R5006 1.5K
R5007 15K
L5003 6.8MH
C5005 50V1
R5004 33
C5006 0.018 B
LP,EP
REC
BIAS
EP
L5002 1MH
BIAS OSC Q5005 2SC1317
R5025 6.8K
C5030 0.01
R5026 68
C5031 16V47
C5029 0.01
C5032 100V0.027 P.P
FROM/TO AUDIO HEAD
CP5001
GND
AUDIO HEAD(REC)
AUDIO HEAD(PB)
GND
AE/FE HEAD
BIAS CURRENT
VR5002 150KB METAL
C5033 500V 680P B
PB
SP
ALC
LINE
PS
-8dB
TUNER -8dB
BUFF
-20dB
MUTE
AUDIO REC/PLAY AMP IC5001 BA7790LS
C5017 50V3.3
C5011 180
R5014 12K
C5047 1
C5020 50V1
C5040 0.1
C5015 0.1
C5009 16V10
C5013 0.001 B
R5010 51K
C5016 50V4.7
C5019 0.01
PB LEVEL VR5001 10KB
R5013 330K
R5015 2.2M
C5021 16V22
R5017 47K
R5043 47K
R5018 47K
R5044 47K
TRAP 15.6KHZ PF5001 2623003
R5030 680
R5031 1.5K
C5050 0.022
C4206 16V10 NP
FROM/TO VCR TUNER/IF
TUNER AUDIO OUT
AT 12V
AT 9V
30V
GND
TP4203
R4216 56
R4217 750
R4220 100K
C4210 4700P
PCB010 VM0044
A
B
C
D
E
F
G
H
0
1
2
3
4
5

- ⋘ RECORD LUMINANCE SIGNAL
- ◀ PLAYBACK LUMINANCE SIGNAL
- ⋘ RECORD COLOR SIGNAL
- ◁ PLAYBACK COLOR SIGNAL
- ⋘ VIF SIGNAL
- ⇦ AUDIO SIGNAL(REC)
- ⬅ AUDIO SIGNAL(PB)

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

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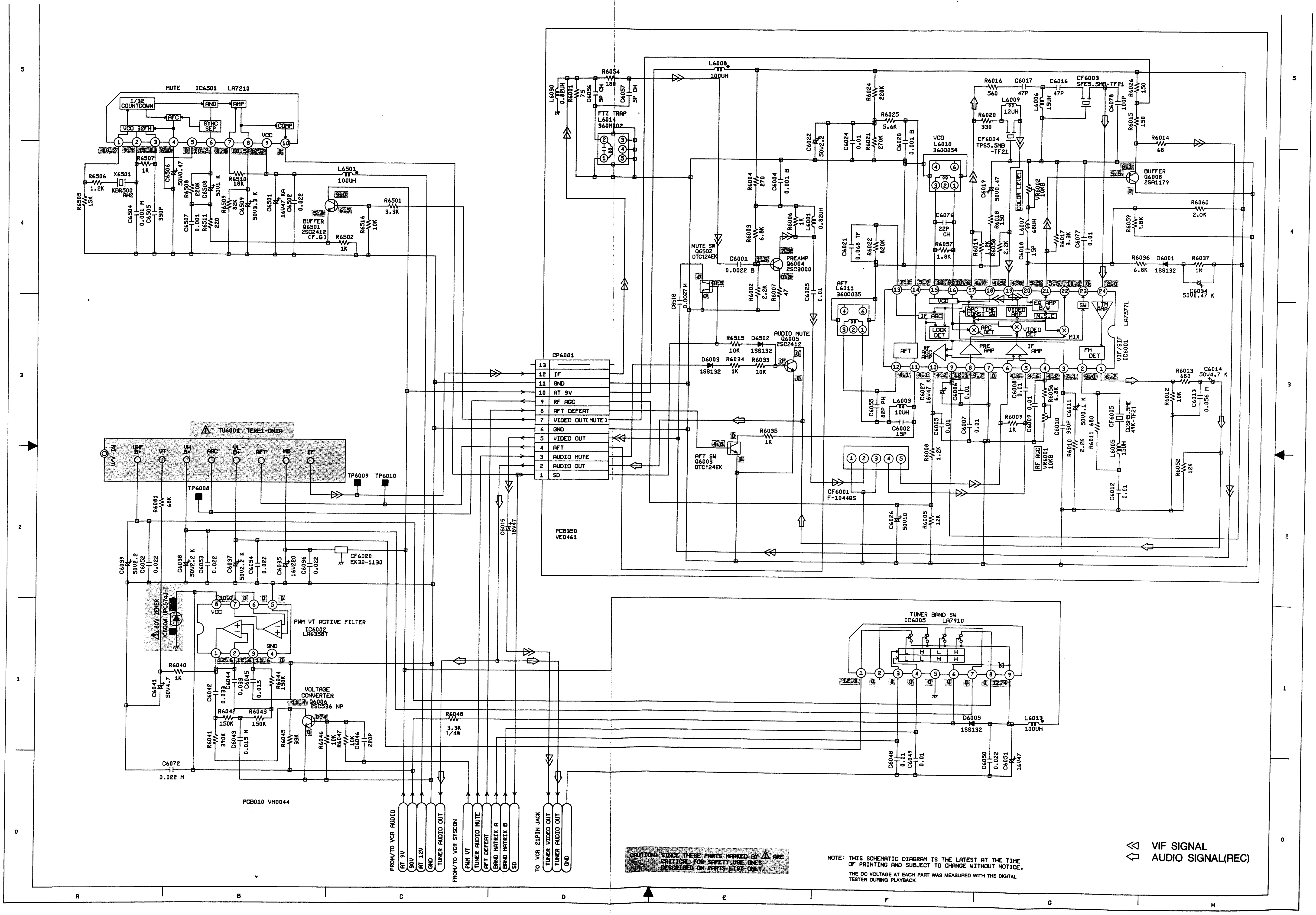
VCR TUNER/IF SCHEMATIC DIAGRAM


MUTE IC6501 LA7210
1/32 COUNTDOWN
AND
AMP
AFC
SYNC SEP
VCO 32FH
COMP
VCC
BUFFER Q6501 2SC2412 (F.G)
L6501 100UH
X6501 KBR500 AH2
TU6001 TERE1-ON1A
U/V IN
UHF B+
VT
VH B+
AGC
VL B+
AFT
MB
IF
TP6008
TP6009
TP6010
CF6020 EK30-1130
IC6004 UPC574J-T 30V ZENER
PWM VT ACTIVE FILTER IC6002 LA6358T
VCC
GND
VOLTAGE CONVERTER Q6006 2SC536 NP
R6048 3.3K 1/4W
C6072 0.022 M
PCB010 VM0044
CP6001
13
12 IF
11 GND
10 AT 9V
9 RF AGC
8 AFT DEFEAT
7 VIDEO OUT(MUTE)
6 GND
5 VIDEO OUT
4 AFT
3 AUDIO MUTE
2 AUDIO OUT
1 SD
PCB350 VE0461
FTZ TRAP L6014 360M002
L6008 100UH
MUTE SW Q6502 DTC124EK
PREAMP Q6004 2SC3000
AUDIO MUTE Q6005 2SC2412
AFT SW Q6003 DTC124EK
VCO L6010 3600034
AFT L6011 3600035
CF6001 F-1044QS
CF6003 SFE5.5MB-TF21
CF6004 TPS5.5MB-TF21
CF6005 CDSH5.5ME 49K-TF21
BUFFER Q6008 2SA1179
COLOR LEVEL
RF AGC VR6001 10KB
VCO
IF AGC
APC TIME CONST SW
VIDEO AMP
EQ AMP B/W
N.S.C
SW
LIM AMP
LOCK DET
APC DET
VIDEO DET
MIX
AFT
RF AGC AMP
PRE AMP
IF AMP
FM DET
VIF/SIF IC6001 LA7577L
TUNER BAND SW IC6005 LA7910
L
H
D6005 1SS132
L6013 100UH
FROM/TO VCR AUDIO
AT 9V
30V
AT 12V
GND
TUNER AUDIO OUT
FROM/TO VCR SYSCON
PWM VT
TUNER AUDIO MUTE
AFT DEFEAT
BAND MATRIX A
BAND MATRIX B
SD
TO VCR 21PIN JACK
TUNER VIDEO OUT
TUNER AUDIO OUT
GND
VIF SIGNAL
AUDIO SIGNAL(REC)
A
B
C
D
E
F
G
H
0
1
2
3
4
5

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

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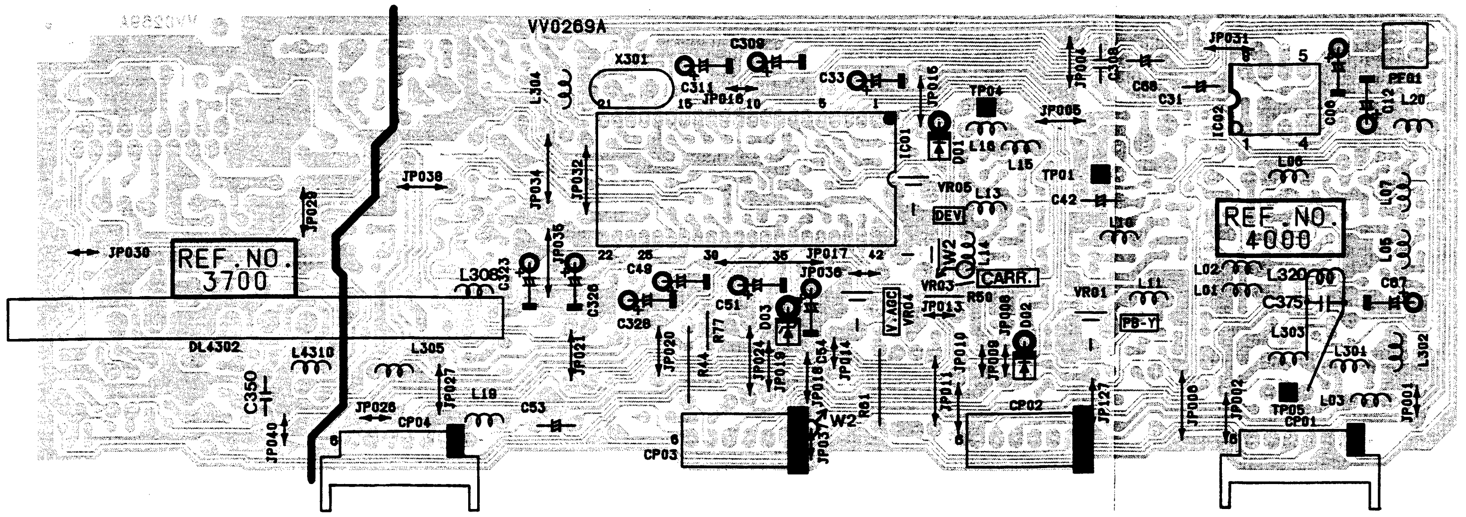
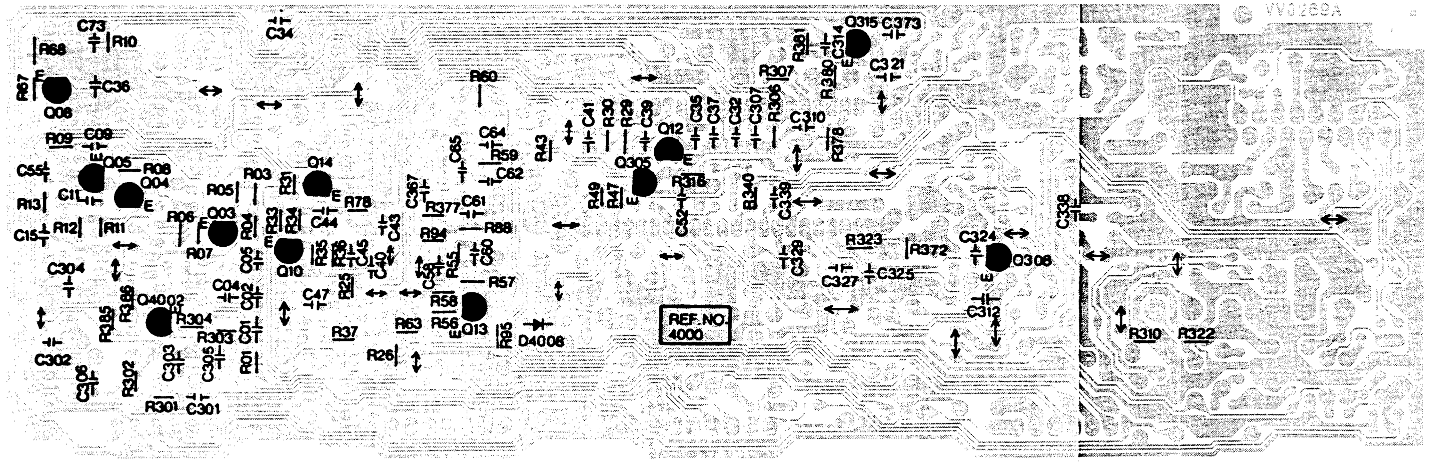
VCR PRINTED CIRCUIT BOARDS

Y.C.

COMPONENT SIDE

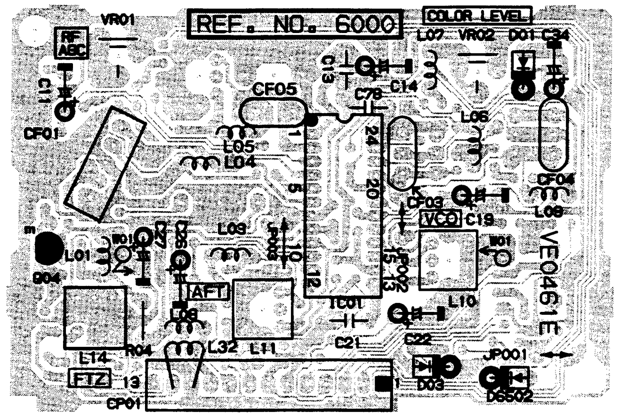

VV0269A
REF. NO. 3700
REF. NO. 4000
X301
IC01
IC02
DEV
CARR.
V.AGC
PB-Y
TP01
TP04
TP05
CP01
CP02
CP03
CP04
W2
DL4302
L305
L306
L4310
C350

SOLDER SIDE

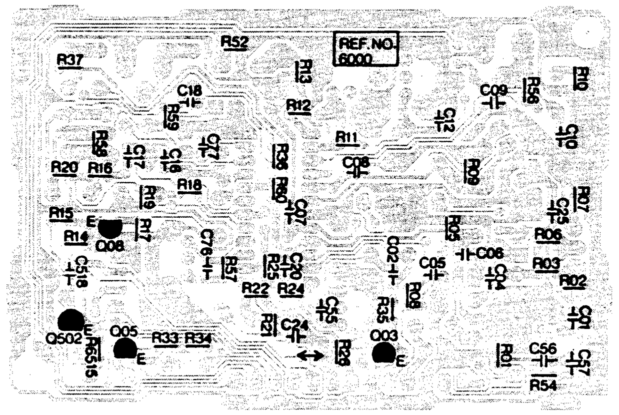

VV0269A
REF.NO. 4000
Q03
Q04
Q05
Q08
Q10
Q12
Q13
Q14
Q306
Q308
Q315
Q4002
D4008

IF

COMPONENT SIDE

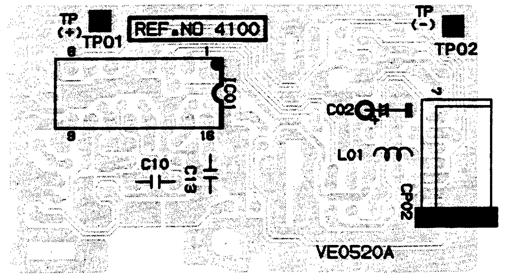

REF. NO. 6000
COLOR LEVEL
RF AGC
VR01
VR02
CF01
CF03
CF04
CF05
VCO
AFT
FTZ
IC01
Q04
L14
CP01
D03
DS502
JP001
VE0461E

SOLDER SIDE

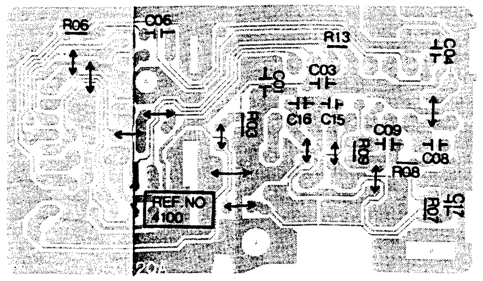

REF.NO. 6000
Q03
Q05
Q08
Q502

HEAD AMP

COMPONENT SIDE

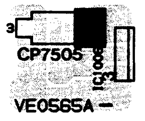

TP (+)
TP01
REF.NO 4100
TP (−)
TP02
IC01
C02
L01
C10
C13
CP02
VE0520A

SOLDER SIDE

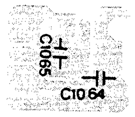

R06
C06
R13
C03
C04
C16
C15
C09
C08
R08
R07
C17
REF.NO 4100

TRANSISTOR

COMPONENT SIDE

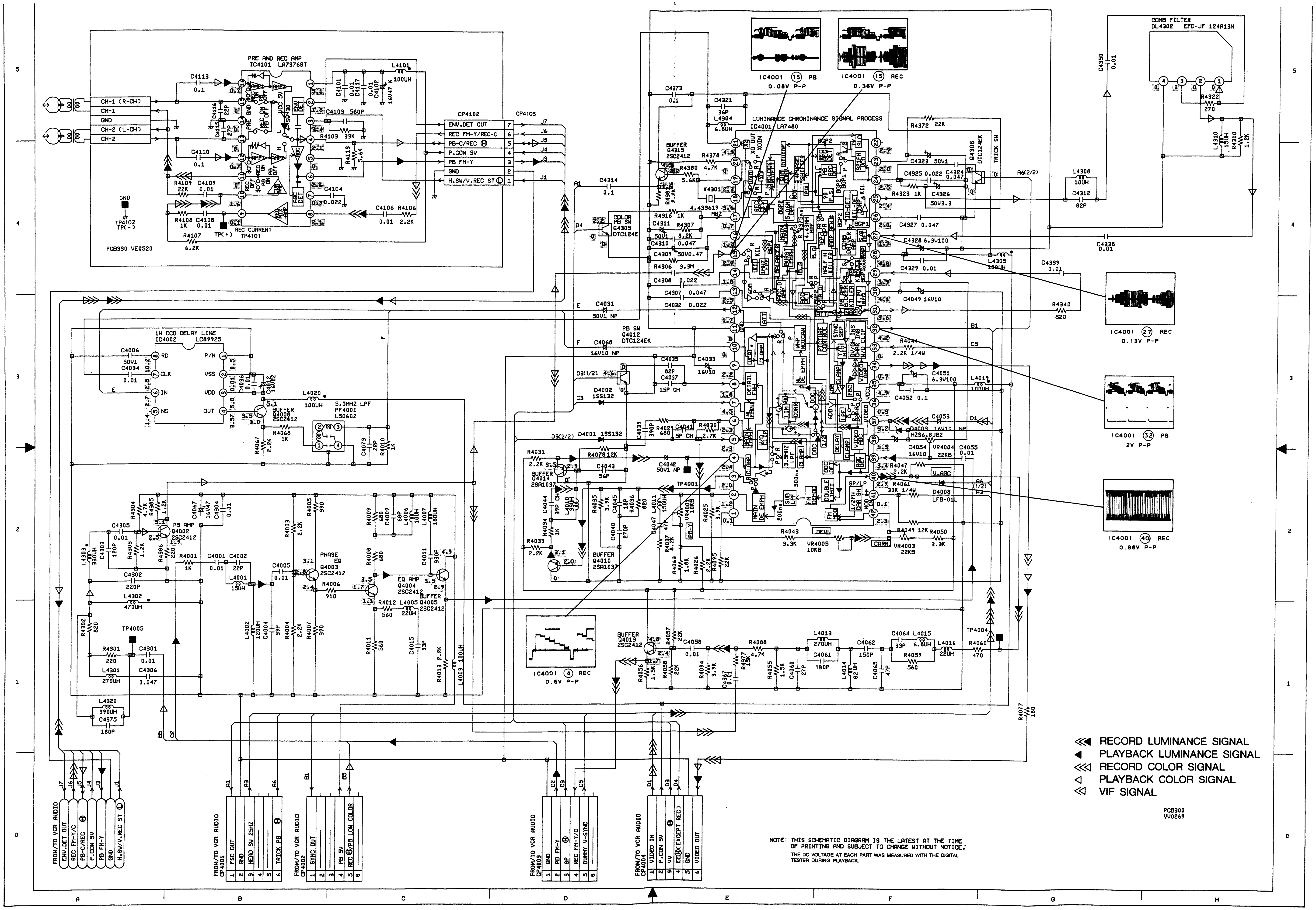

CP7505
VE0565A

SOLDER SIDE


C1065
C1064

MODEL: VX-T1400AE

VCR Y.C./HEAD AMP SCHEMATIC DIAGRAM


PRE AND REC AMP
IC4101 LA7376ST
CH-1 (R-CH)
CH-1
GND
CH-2 (L-CH)
CH-2
PCB330 VE0520
CP4102
CP4103
ENV.DET OUT
REC FM-Y/REC-C
PB-C/REC Ⓗ
P.CON 5V
PB FM-Y
GND
H.SW/V.REC ST Ⓛ
TP4102 TPC(-)
TP4101 REC CURRENT
1H CCD DELAY LINE
IC4002 LC89925
BUFFER Q4008 2SC2412
5.0MHZ LPF PF4001 L50602
PB AMP Q4002 2SC2412
PHASE EQ Q4003 2SC2412
EQ AMP Q4004 2SC2412
BUFFER Q4005 2SC2412
TP4005
LUMINANCE CHROMINANCE SIGNAL PROCESS
IC4001 LA7480
BUFFER Q4315 2SC2412
COLOR PB SW Q4305 DTC124E
PB SW Q4012 DTC124EK
Q4308 DTC124EK
TRICK SW
X4301 4.433619 MHZ
BUFFER Q4014 2SA1037
BUFFER Q4010 2SA1037
BUFFER Q4013 2SC2412
TP4001
TP4004
COMB FILTER DL4302 EFD-JF 124A13N
IC4001 ⑮ PB 0.08V P-P
IC4001 ⑮ REC 0.36V P-P
IC4001 ㉗ REC 0.13V P-P
IC4001 ㉜ PB 2V P-P
IC4001 ㊵ REC 0.88V P-P
IC4001 ④ REC 0.5V P-P
FROM/TO VCR AUDIO
1 ENV.DET OUT J7
2 REC FM-Y/C J6
3 PB-C/REC Ⓗ J5
4 P.CON 5V J4
5 PB FM-Y J3
6 GND
7 H.SW/V.REC ST Ⓛ J1
FROM/TO VCR AUDIO CP4001
1 FSC OUT A1
2 GND
3 HEAD SW 25HZ A3
4 GND
5 TRICK PB Ⓗ A6
6
FROM/TO VCR AUDIO CP4002
1 SYNC OUT B1
2 GND
3 GND
4 PB 5V
5 REC Ⓗ/PB LOW COLOR B5
6
FROM/TO VCR AUDIO CP4003
1 GND
2 PB FM-Y C2
3 SP Ⓗ C3
4 GND
5 REC FM-Y/C C5
6 DUMMY V-SYNC
FROM/TO VCR AUDIO CP4004
1 VIDEO IN D1
2 P.CON 5V
3 VV D3
4 EE Ⓗ(EXCEPT REC) D4
5 GND
6 VIDEO OUT
PCB300 VV0269
A B C D E F G H
0 1 2 3 4 5

◀◀◀ RECORD LUMINANCE SIGNAL
◀ PLAYBACK LUMINANCE SIGNAL
⊲⊲⊲ RECORD COLOR SIGNAL
⊲ PLAYBACK COLOR SIGNAL
⊲⊲ VIF SIGNAL

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.
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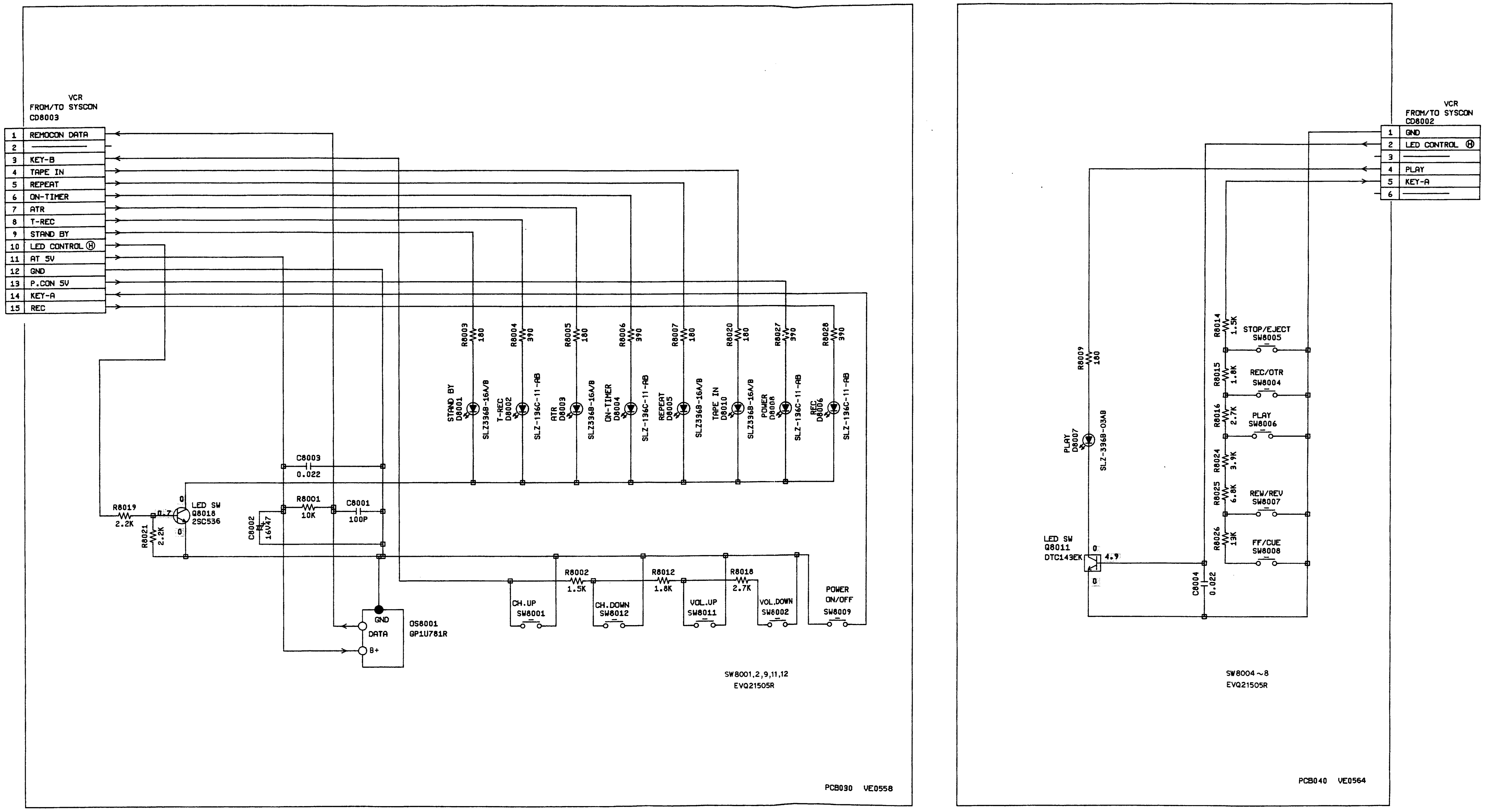
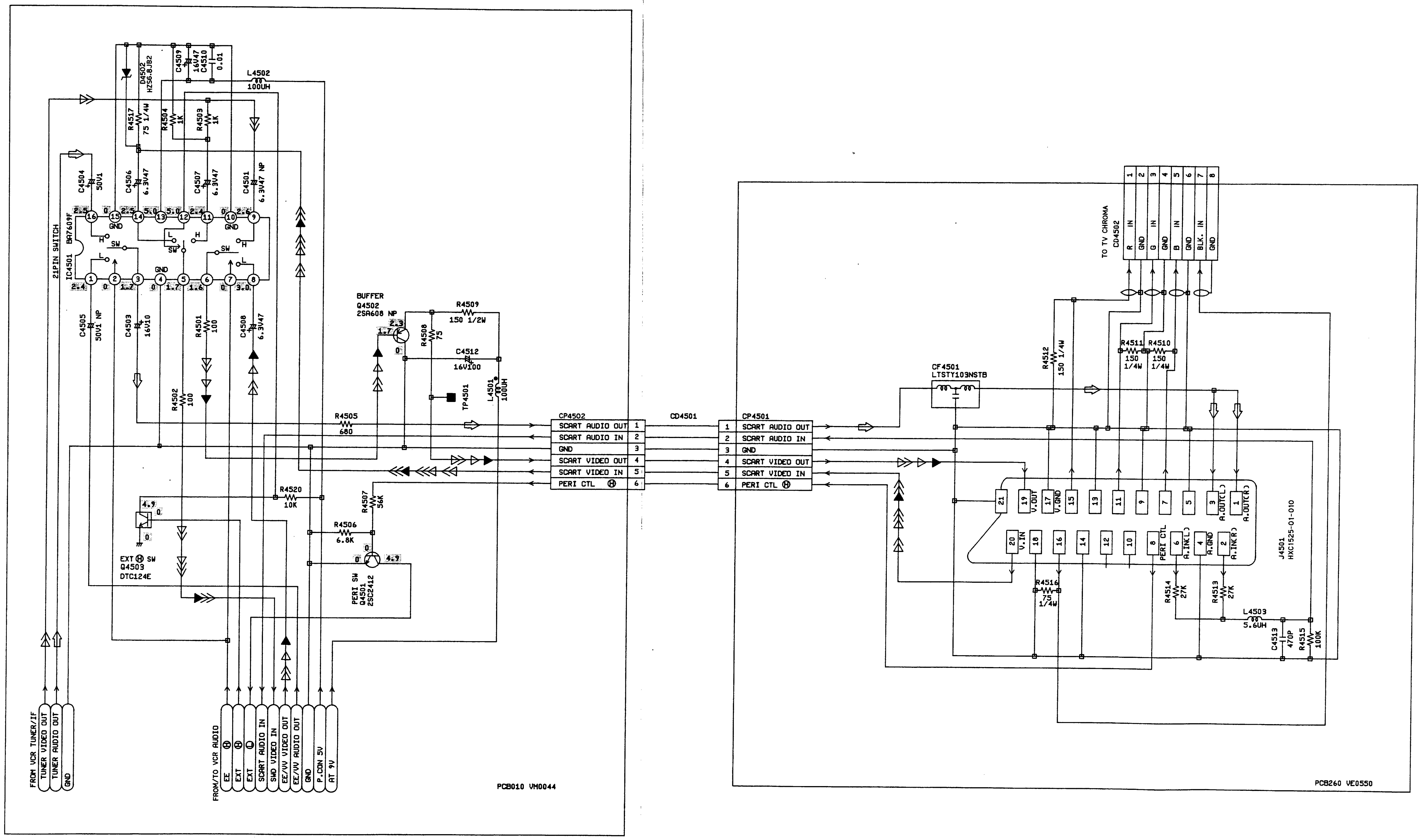
VCR OPERATION 1/2 SCHEMATIC DIAGRAM


VCR
FROM/TO SYSCON
CD8003
1 REMOCON DATA
2
3 KEY-B
4 TAPE IN
5 REPEAT
6 ON-TIMER
7 ATR
8 T-REC
9 STAND BY
10 LED CONTROL Ⓗ
11 AT 5V
12 GND
13 P.CON 5V
14 KEY-A
15 REC
R8003 180
R8004 390
R8005 180
R8006 390
R8007 180
R8020 180
R8027 390
R8028 390
STAND BY D8001 SLZ336B-16A/B
T-REC D8002 SLZ-136C-11-AB
ATR D8003 SLZ336B-16A/B
ON-TIMER D8004 SLZ-136C-11-AB
REPEAT D8005 SLZ336B-16A/B
TAPE IN D8010 SLZ336B-16A/B
POWER D8008 SLZ-136C-11-AB
REC D8006 SLZ-136C-11-AB
C8003 0.022
R8019 2.2K
R8021 2.2K
0.7
0
0
LED SW Q8018 2SC536
C8002 16V47
R8001 10K
C8001 100P
GND
DATA
B+
OS8001 GP1U781R
R8002 1.5K
R8012 1.8K
R8018 2.7K
CH.UP SW8001
CH.DOWN SW8012
VOL.UP SW8011
VOL.DOWN SW8002
POWER ON/OFF SW8009
SW8001,2,9,11,12
EVQ21505R
PCB030 VE0558
VCR
FROM/TO SYSCON
CD8002
1 GND
2 LED CONTROL Ⓗ
3
4 PLAY
5 KEY-A
6
R8009 180
PLAY D8007 SLZ-336B-03AB
LED SW Q8011 DTC143EK
0
4.9
0
C8004 0.022
R8014 1.5K
STOP/EJECT SW8005
R8015 1.8K
REC/OTR SW8004
R8016 2.7K
PLAY SW8006
R8024 3.9K
R8025 6.8K
REW/REV SW8007
R8026 13K
FF/CUE SW8008
SW8004～8
EVQ21505R
PCB040 VE0564

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.
THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

VCR 21PIN JACK SCHEMATIC DIAGRAM


21PIN SWITCH
IC4501 BA7609F
GND
H
L
SW
C4504 50V1
C4506 6.3V47
C4507 6.3V47
C4501 6.3V47 NP
C4505 50V1 NP
C4503 16V10
R4501 100
C4508 6.3V47
R4502 100
D4502 HZS6.8JB2
C4509 16V47
C4510 0.01
L4502 100UH
R4517 75 1/4W
R4504 1K
R4503 1K
2.5
0
2.5
5.0
5.0
2.4
0
2.6
2.4
0
1.7
0
1.7
1.6
0
3.0
BUFFER
Q4502
2SA608 NP
2.3
1.7
0
R4509 150 1/2W
R4508 75
C4512 16V100
TP4501
L4501 100UH
R4505 680
R4520 10K
R4507 56K
R4506 6.8K
4.9
0
EXT Ⓗ SW
Q4503
DTC124E
PERI SW
Q4501
2SC2412
CP4502
SCART AUDIO OUT 1
SCART AUDIO IN 2
GND 3
SCART VIDEO OUT 4
SCART VIDEO IN 5
PERI CTL Ⓗ 6
CD4501
CP4501
1 SCART AUDIO OUT
2 SCART AUDIO IN
3 GND
4 SCART VIDEO OUT
5 SCART VIDEO IN
6 PERI CTL Ⓗ
FROM VCR TUNER/IF
TUNER VIDEO OUT
TUNER AUDIO OUT
GND
FROM/TO VCR AUDIO
EE Ⓗ
EXT Ⓗ
EXT Ⓛ
SCART AUDIO IN
SWD VIDEO IN
EE/VV VIDEO OUT
EE/VV AUDIO OUT
GND
P.CON 5V
AT 9V
PCB010 VM0044
TO TV CHROMA
CD4502
1 R IN
2 GND
3 G IN
4 GND
5 B IN
6 GND
7 BLK. IN
8 GND
CF4501
LTSTY103NSTB
R4512 150 1/4W
R4511 150 1/4W
R4510 150 1/4W
21
19 V.OUT
17 V.GND
15
13
11
9
7
5
3 A.OUT(L)
1 A.OUT(R)
20 V.IN
18
16
14
12
10
8 PERI CTL
6 A.IN(L)
4 A.GND
2 A.IN(R)
J4501
HXC1525-01-010
R4516 75 1/4W
R4514 27K
R4513 27K
L4503 5.6UH
C4513 470P
R4515 100K
PCB260 VE0550

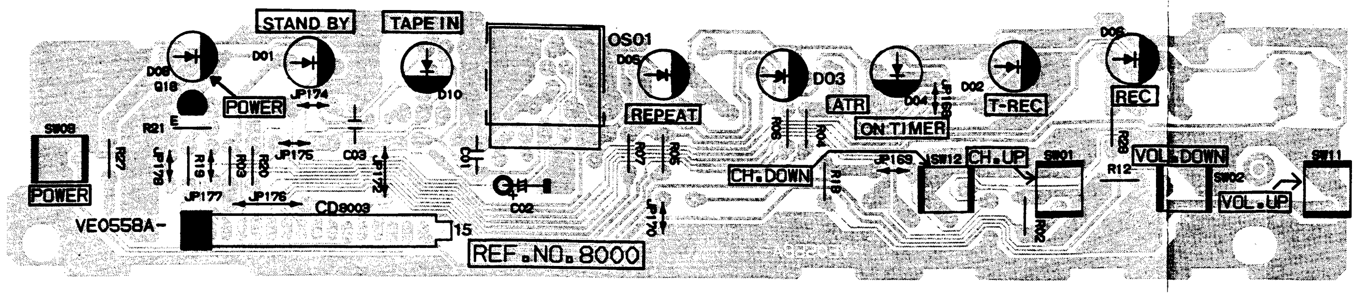
<<◀ RECORD LUMINANCE SIGNAL
◀ PLAYBACK LUMINANCE SIGNAL
<<◁ RECORD COLOR SIGNAL
◁ PLAYBACK COLOR SIGNAL
<◁ VIF SIGNAL
⇦ AUDIO SIGNAL(REC)

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.
THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

VCR PRINTED CIRCUIT BOARDS

OPERATION 1

COMPONENT SIDE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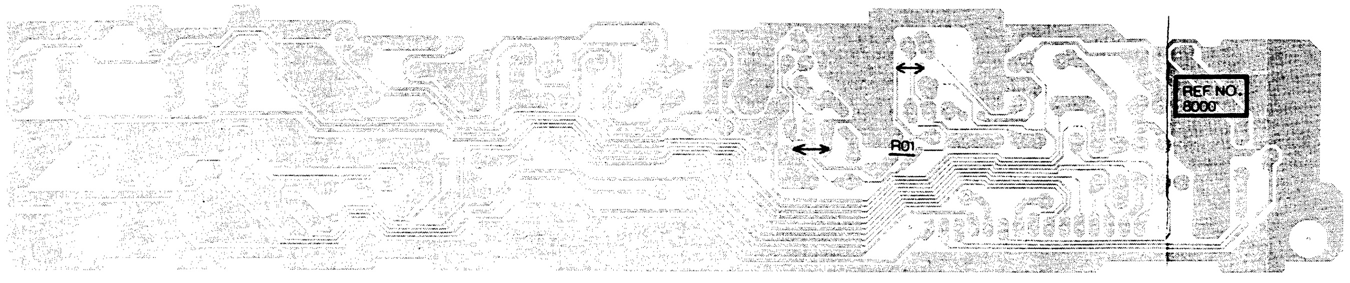
TAPE IN
OS01
D06
D01
D09
Q18
POWER
JP174
D10
REPEAT
D03
ATR
D04
D02
T-REC
D08
REC
ON TIMER
SW06
POWER
R21
JP175
C03
JP172
C02
CH.DOWN
JP163
SW12
CH.UP
SW01
R12
VOL.DOWN
SW02
VOL.UP
SW11
JP177
JP176
CD8003
VE0558A-
15
REF.NO.8000

SOLDER SIDE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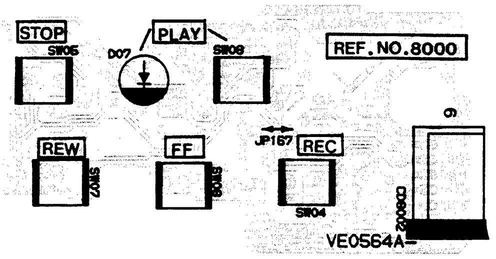
OPERATION 2

COMPONENT SIDE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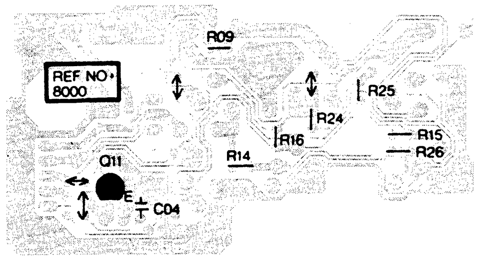
SW05
D07
PLAY
SW09
REF.NO.8000
REW
SW07
FF
SW08
JP167
REC
SW04
CD8002
VE0564A-

SOLDER SIDE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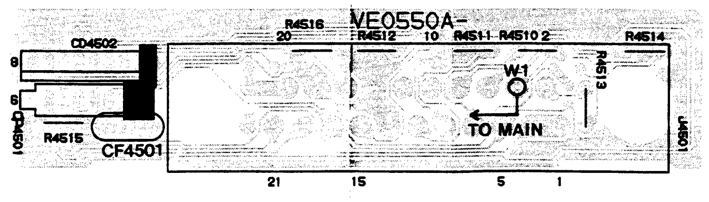
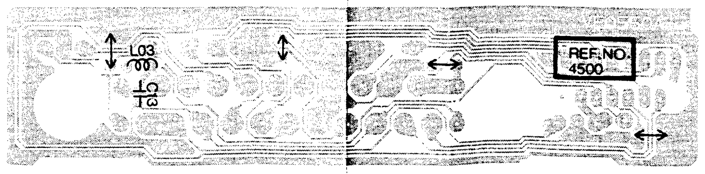
REF NO.
8000
R25
R24
R16
R14
R15
R26
Q11
C04

21PIN

COMPONENT SIDE


VE0550A-
CD4502
R4516
R4512
R4511
R4510
R4514
20
10
2
W1
R4513
TO MAIN
J4501
CD4501
R4515
CF4501
21
15
5
1

SOLDER SIDE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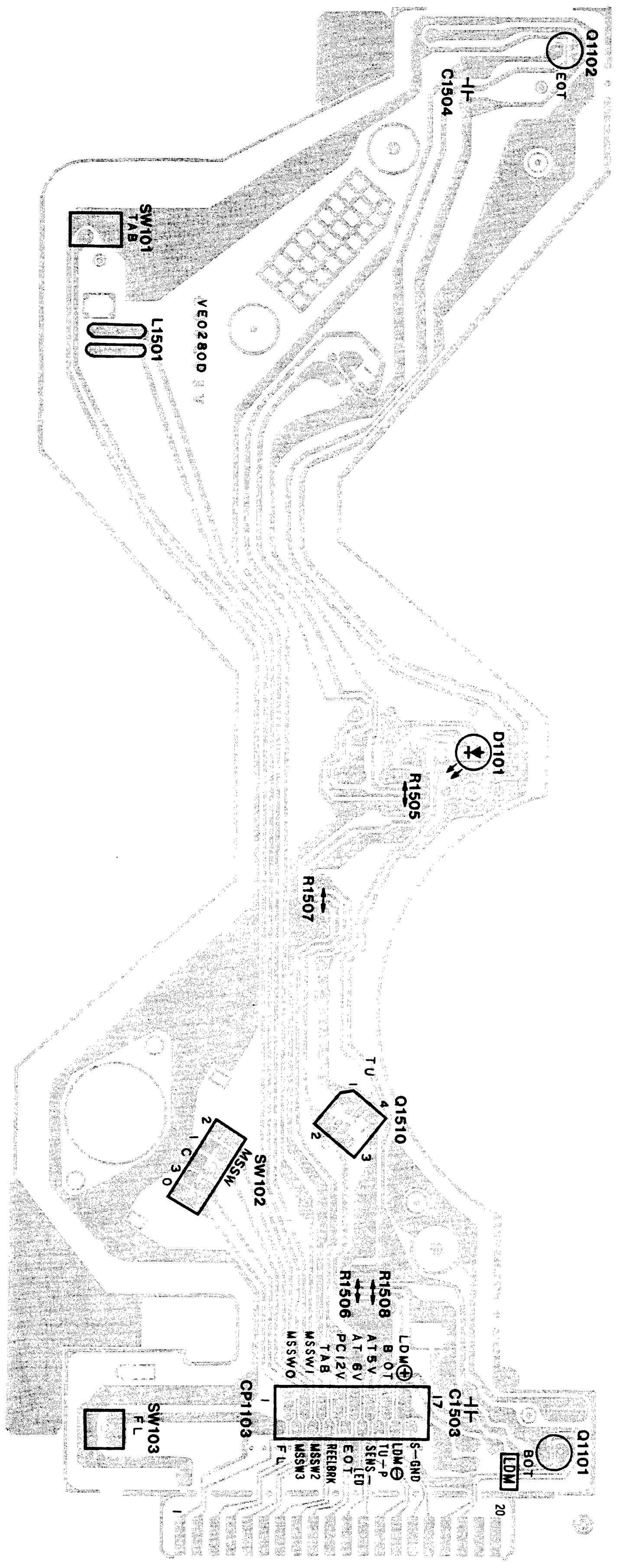
C13
REF.NO.
4500

DECK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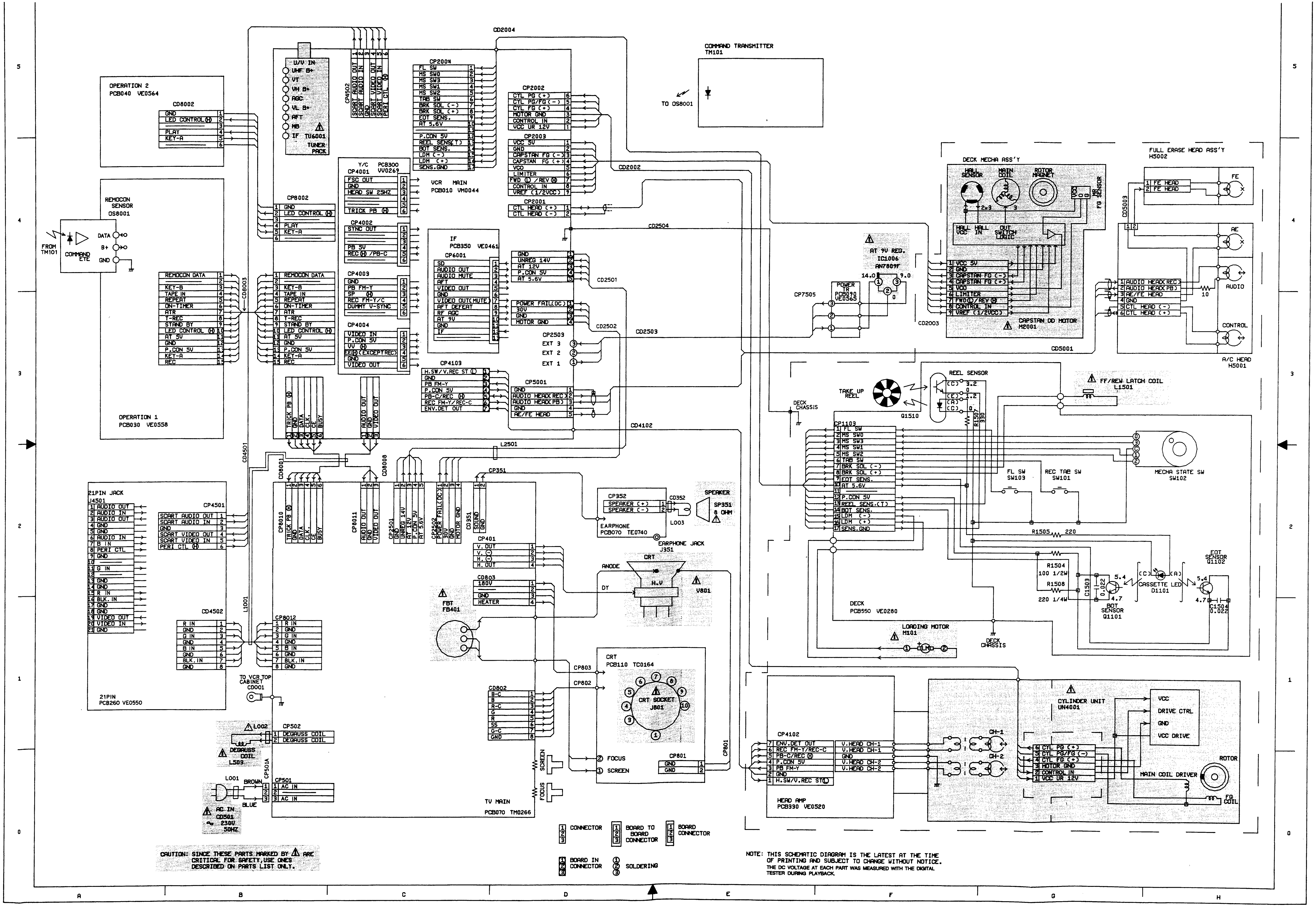
EOT
C1504
SW101
TAB
L1501
VE0280D
D1101
R1505
R1507
Q1510
SW102
MSSW
R1508
R1506
CP1103
SW103
FL
C1503
Q1101
BOT
LDM

MODEL: VX-T1400AE

INTERCONNECTION DIAGRAM


OPERATION 2
PCB040 VE0564
REMOCON SENSOR OS8001
COMMAND EYE
FROM TM101
OPERATION 1
PCB030 VE0558
21PIN JACK J4501
21PIN
PCB260 VE0550
U/V IN
TUNER PACK TU6001
Y/C PCB300 VV0269
VCR MAIN
PCB010 VM0044
IF
PCB350 VE0461
COMMAND TRANSMITTER TM101
TO OS8001
DECK MECHA ASS'Y
HALL SENSOR
MAIN COIL
ROTOR MAGNET
FG SENSOR
CAPSTAN DD MOTOR M2001
FULL ERASE HEAD ASS'Y H5002
FE
AE
AUDIO
CONTROL
A/C HEAD H5001
AT 9V REG. IC1006 AN7809F
POWER TR PCB090 VE0563
REEL SENSOR
TAKE UP REEL
FF/REW LATCH COIL L1501
DECK CHASSIS
MECHA STATE SW SW102
FL SW SW103
REC TAB SW SW101
EOT SENSOR Q1102
CASSETTE LED D1101
BOT SENSOR Q1101
DECK PCB550 VE0280
LOADING MOTOR M101
SPEAKER SP351 8 OHM
EARPHONE PCB070 TE0740
EARPHONE JACK J351
CRT V801
ANODE
DY
H.V
FBT FB401
CRT PCB110 TC0164
CRT SOCKET J801
FOCUS
SCREEN
TV MAIN
PCB070 TM0266
DEGAUSS COIL L503
AC IN CD501 230V 50HZ
TO VCR TOP CABINET CD001
HEAD AMP
PCB390 VE0520
CYLINDER UNIT UN4001
CH-1
CH-2
MAIN COIL DRIVER
ROTOR
FG COIL
CONNECTOR
BOARD TO BOARD CONNECTOR
BOARD CONNECTOR
BOARD IN CONNECTOR
SOLDERING

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE. THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

IC DESCRIPTIONS

OEC0036A

Pin No.	Pin Name	I/O	Descriptions
1	STR SP/LP	I	This input terminal is used for input the specifications of SLOW TRACKING OFFSET from servo with analog. These specifications have 4 combinations of tape speed (SP/LP) on playback and tape directions (Left/Right).
2	KEY C	I	This terminal is used for analog input and to input the key operations on the VCR.
3	KEY B	I	This terminal is used for analog input and to input the key operations on the VCR.
4	KEY A	I	This terminal is used for analog input and to input the key operations on the VCR.
5	GND	–	Analog ground.
6	GND	–	Micro computer test terminal. Connect to ground.
7	X2	O	Terminal to connect the quartz oscillator (32.768KHz).
8	X1	I	Terminal to connect the quartz oscillator (32.768KHz).
9	GND	–	Ground.
10	OSC 1	I	Terminal to connect the quartz oscillator (8.3886MHz).
11	OSC 2	O	Terminal to connect the quartz oscillator (8.3886MHz).
12	SYSTEM RESET Ⓛ	I	Micro computer reset input. To be reset at "L".
13	REMOCON IN	I	This terminal is connected from output of the remocon receiver.
14	CTL PULSE	I	Input for the CTL pulse which is made by servo IC.
15	VISS I/O	I/O	Input for the INDEX signal which is made by servo IC.
16	H.SW 25Hz	I	Input terminal for the head switching pulse which is made by servo IC.
17	CTL PULSE	I	Input for the CTL count down pulse which is made by servo IC.
18	DEW	I	Input terminal for the dew sensor.
19	CAP FG	I	Input terminal for the capstan FG pulse.
20	LDM PD/CPM PU Ⓗ	O	During the loading of a tape by the loading arm, this pin will output the "H" and the loading speed goes down. This pin will output the "L" during unloading of a tape.
21	LDM RVS	O	During the motor actuating of tape unloading or tape eject, this pin will output the "H". During the motor actuating of tape loading or tape-in, this pin will output the "L".
22	LDM ON Ⓗ	O	During the actuating of the loading motor, this pin will output the "H". During the stop of the loading motor, this pin will output the "L".
23	REEL BRK Ⓗ	O	During the actuating of the latch magnet on the Deck, this port will output the "H". And this port will out the "L" except the above condition.
24	V.PB Ⓗ	O	After the completing of the tape loading, this pin will output the "H" when the unit is switched to the PB mode.
25	VV Ⓗ	O	This pin is used for switching of recording and playback monitor (Video/Audio).
26	TRICK PB Ⓗ	O	During the special playback (CUE, REV, PAUSE, SLOW, STILL and F.ADV) is performed, this pin will output the "H".
27	V.REC ST Ⓗ	O	When the recording current flows through the head during the recording, this pin will output the "H".
28	REC Ⓗ	O	This pin used for generating of head amp REC 5V. When the REC key input is started, this pin will output the "H".
29	TV MUTE Ⓗ	O	NC
30	T.AUDIO MUTE Ⓗ	O	Muting output terminal of tuner audio.
31	AUDIO MUTE Ⓗ	O	This pin output the "H" to mute the sound confusion or pop sound at the swithching points between E-E and V-V during the special playback (CUE/REV, PAUSE, SLOW, STILL and F.ADV).
32	/SD Ⓛ	I	During the receiving of tuner signal, this pin will output the "L". During the non-signal, this pin will output the "H".
33	/EXT Ⓛ	I	When the external input comes in, this pin will output the "L". When the external input does not come in, this pin will output the "H".
34	SECAM Ⓗ	O	NC

IC DESCRIPTIONS

OEC0036A

Pin No.	Pin Name	I/C	Descriptions
35	DEW/PULSE TEST Ⓗ	I	NC
36	AUX Ⓗ	O	Auxiliary output terminal.
37	–	–	Non-used terminal.
38	TV POWER Ⓗ	O	Power supply control terminal for TV. "H" : TV Power ON. "L" : TV Power OFF.
39	POWER CNT Ⓗ	O	Power supply control terminal for VCR. "H" : VCR Power ON. "L" : VCR Power OFF.
40	GND	–	GND for PULL DOWN of output terminal for LED.
41	TAPE IN/NORMALIZE	O	LED output terminal for indications. When the Tape IN. LED lights up. When the Tape is ejected, LED flashes.
42	REPEAT/PAL/SECAM	O	LED output terminal for indications. When the unit is set to the FULL REPEAT, LED lights up.
43	ON-TIMER/VPS PDC	O	LED output terminal for indications. When the unit is set to the ON TIMER, LED lights up.
44	ATR	O	LED output terminal for indications. When the unit is searching AUTO TRACKING on Playback, LED flashes. When the unit is watching AUTO TRACKING on Playback, LED lights up.
45	T-REC/TUNER BAND-0	O	LED output terminal for indications. When the unit is on T-REC mode, LED lights up. When the unit is on irregular T-REC mode, LED flashes.
46	STAND BY/TUNER BAND-1	O	LED output terminal for indications. When the both TV and VCR power supply is OFF, LED lights up.
47	PLAY/TAPE SPEED SP/LP	O	LED output terminal for indications. When the unit is in playback mode, LED lights up.
48	REC/INDEX ON/OFF	O	LED output terminal for indications. When the unit is in REC mode, LED lights up.
49	MEMORY/VSS SW	O	NC
50	EOT Ⓗ	I	"H" : EOT detector. Detector terminal of tape end cassette in.
51	BOT Ⓗ	I	"H" : BOT detector. Detector terminal of tape begining and cassette in.
52	REEL SENS.	I	Reel sensor pulse is input. (Take Up Reel side)
53	INITIAL IN	I	This pin is used for the initial setting input on reset start.
54	LED CONTROL Ⓗ	O	ON/OFF control terminal of indicating LED.
55	PAL Ⓗ	I	PAL/NTSC mode signal output (output the "H" when detecting the PAL).
56	NTSC Ⓗ	I	PAL/NTSC mode signal output (output the "H" when detecting the NTSC).
57	VCC	–	Power supply terminal for micro computer (5V).
58	CYL SPEED UP Ⓗ	O	This pin is used for the 3 state C-MOS output and output the correct pulse for the horizontal vibrations.
59	CAP F/R Ⓗ	O	This pin is used for the rotation direction control of the capstan motor.
60	CURRENT LIMIT Ⓗ	O	This pin is used for the 3 state C-MOS output and output the "H" during the Still/Slow, the "L" during the C.P.M stop and output the "High impedance" during the normal rotation.
61	CAP FULL Ⓗ	O	This pin is used for the 3 state C-MOS output and output the "H" during the tape take-up and anti-braking of the capstan motor. And also this pin output the "High Impedance" during the normal playback and recording, output the "L" during the capstan stop.
62	CAP RESET Ⓛ	O	This pin is used for resetting the condenser error voltage of servo compensation filter.
63	CAP A/C FIX Ⓗ	I	Terminal for turning the phase to ON/OFF of capstan servo group.
64	SERVO CLOCK	O	This terminal is used for output of CLOCK for the servo IC.
65	SERVO DATA	O	This terminal is used for output of DATA for the servo IC.

IC DESCRIPTIONS

OEC0036A

Pin No.	Pin Name	I/O	Descriptions
66	PWM VT	O	This pin is used for PWM output of tunning voltage generator. (12 bit)
67	TV CLOCK	O	This terminal is used for output of CLOCK for the DAC/OSD IC.
68	AFT DEFEAT	O	This pin is used for the control of AFT ON/OFF.
69	TV DATA	O	This terminal is used for output of CLOCK for the DAC/OSD IC.
70	BAND B	O	This terminal used for the selector switch of tuner, V-LOW/V-High/S/U.
71	BAND A	O	This terminal used for the selector switch of tuner, V-LOW/V-HIGH/S/U.
72	TV/CE Ⓗ	O	When the unit transfer the DATA to the OSD IC, this pin out the "L" during the POWER OFF and output the "H" during the except the above conditions.
73	POWER FAIL	O	This terminal is used for the power failure detection and detection of power failure recovery. "L" is indicated for the power supply, "H" for the power failure.
74	I^{2}C SCL	O	This terminal is used for output of CLOCK for I^{2}C BUS. Output is NMOS OPEN DRAIN.
75	I^{2}C SDA	O	This terminal is used for output of DATA for I^{2}C BUS. Output is NMOS OPEN DRAIN.
76	VCC	–	Standard voltage of ANALOG input (5V).
77	VIDEO ENV	I	The DC voltage correspondingly to the video envelope level is applied from the H.AMP.
78	MS SW B	I	This pin is used for the input connection for the signal of MS SWO and MS SW2.
79	MS SW A	I	This pin is used for the input connection for the signal of MS SW1 and MS SW3.
80	CASS SW	I	This pin is used for the input of FL SW and TAB SW.

IC DESCRIPTIONS

OEC6018A

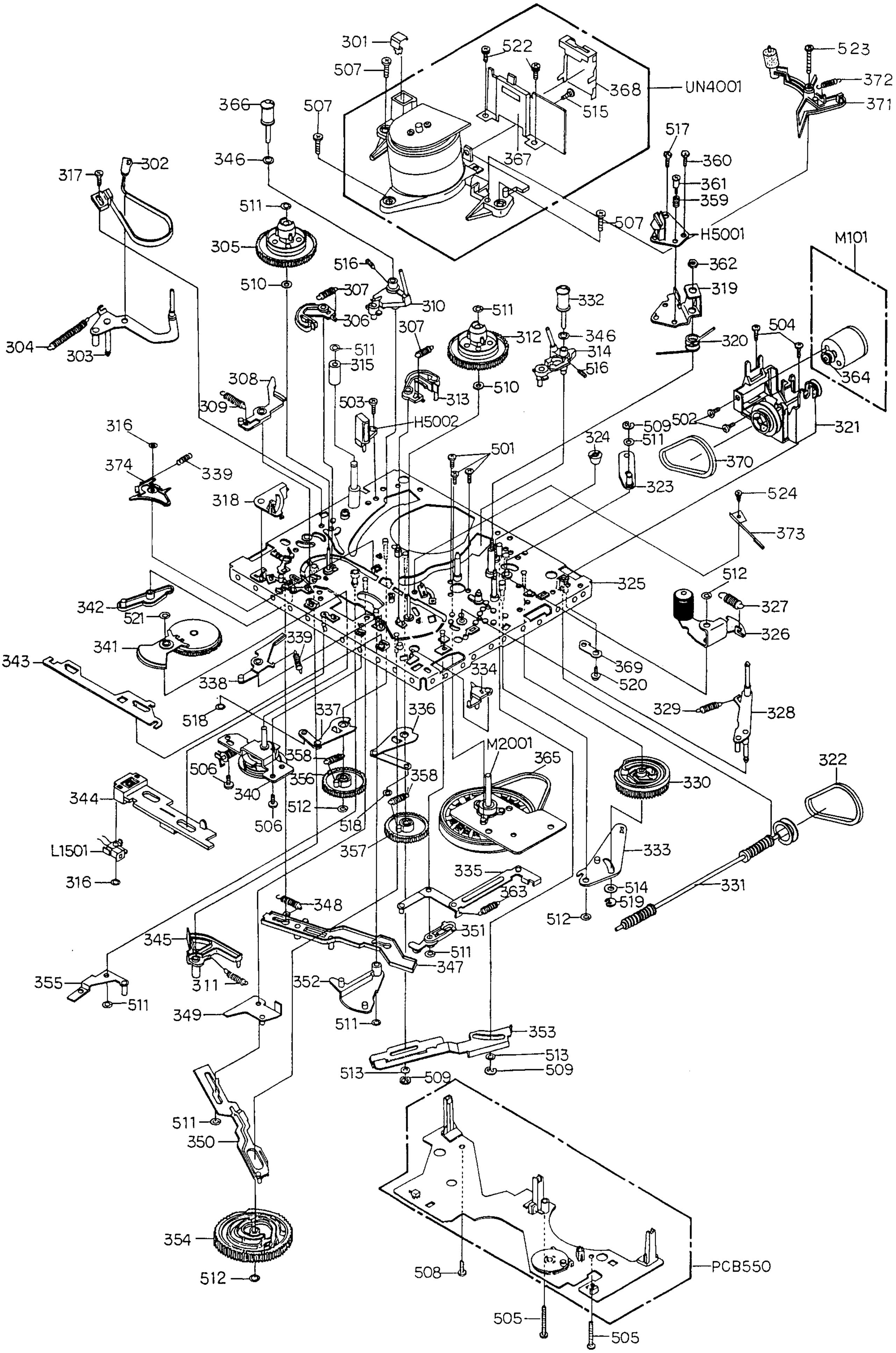
Pin No.	Pin Name	I/O	Descriptions
1	VOL.	O	Volume output.
2	BRI.	O	Bright output.
3	CONT.	O	Contrast output.
4	COL.	O	Color output.
5	SHARP	O	Sharpness output.
6	TINT	O	NC
7	R52	–	NC
8	BUSY	–	Serial line.
9	R70	–	NC
10	V.SYN SW	O	SD(L)
11	MUTE 2	O	NC
12	OP	O	
13	$\overline{50}$/60Hz	I	50/60Hz select input.
14	K01	–	NC
15	K02	–	
16	K03	–	
17	$\overline{\text{PAL}}$/SEC.	O	
18	MUTE 1	O	TV mute 1 output.
19	VCR POWER	O	VCR power output.
20	TV POWER	O	TV power output.
21	VSS	–	Ground
22	B	O	Color signal output (Blue).
23	G	O	Color signal output (Green).
24	R	O	Color signal output (Red).
25	Y(BL)	O	Y-signal output.
26	$\overline{\text{HD}}$	I	H. pulse input.
27	$\overline{\text{VD}}$	I	V. pulse input.
28	OSC 1	I	Terminal to connect the OSD OSC circuit.
29	OSC 2	O	Terminal to connect the OSD OSC circuit.
30	TEST	I	Ground
31	X.IN	I	Terminal to connect the oscillator (4.19MHz).
32	X.OUT	O	
33	RESET	I	Reset signal input.
34	HOLD	I	Hold voltage input.
35	R80	O	Blue back control.
36	R81	–	NC
37	CE	I	Serial line.
38	R83	–	NC
39	DATA	I	Serial line.
40	R92	–	NC
41	CLOCK	I	Serial line.
42	VDD	–	+5V

IC DESCRIPTIONS

TA8750N

Pin No.	Pin Name	I/O	Descriptions
1	GND 1	–	Ground
2	D.L. IN	I	The input terminal of 1H delayed chroma signal for the SECAM permutator.
3	BIAS	I	
4	VCC1	I	+9V
5	PAL DRIVE	I	A PAL chroma signal is led from the TA8867N.
6	D.L. DRIVE	O	The PAL/SECAM chroma signal output for a 1H delay line.
7	GND 2	–	Ground
8	UNI COLOR	I	Color saturation of SECAM signal increases when the terminal voltage of pin 7 increases.
9	COLOR	I	Color saturation increases when the terminal voltage of pin 6 increases.
10	SECAM IN	I	Secam chroma signal is led to this terminal through a bell filter circuit.
11	VCC 2	I	+9V
12	PAL IDENT IN	I	An input terminal of a PAL ID signal.
13	IDENT FILTER	–	Hold capacitance for SECAM identification is connected.
14	IDENT COIL	–	A 4.328MHz tuned tank circuit for SECAM identification is connected.
15	GATE SW	–	NC
16	V.BLK	I	An input terminal of V.BLK. PULSE.
17	H.BLK	I	An input terminal of flyback pulse for H.BLK., internal flip flop driving, and gate pulse generator.
18	G.P. FILTER	–	Time constant for gate pulse generator is connected.
19	B-Y OUT	O	Color-difference signal output.
20	G-Y OUT	O	NC
21	R-Y OUT	O	Color-difference signal output.
22	OSD B IN	I	NC
23	OSD G IN	I	NC
24	OSD R IN	I	NC
25	R-Y CLAMP	–	Clamp capacitance for the color-deference signal path is connected.
26	B-Y CLAMP	–	
27	VCC 3	I	+9V
28	DE-EMPH	–	SECAM de-emphasis.
29	DET COIL	I	SECAM B-Y detector.
30	B-Y LIM OUT	O	SECAM B-Y detector.
31	PAL B-Y IN	I	An input terminal of a PAL color-deference signal.
32	GND 3	–	Ground
33	PAL R-Y IN	I	An input terminal of a PAL color-deference signal.
34	R-Y DE-EMPH	–	SECAM de-emphasis.
35	R-Y DET COIL	I	SECAM R-Y detector.
36	R-Y LIM OUT	O	SECAM R-Y detector.

CHASSIS EXPLODED VIEW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H5001
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M101
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H5002
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M2001
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L1501
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PCB550
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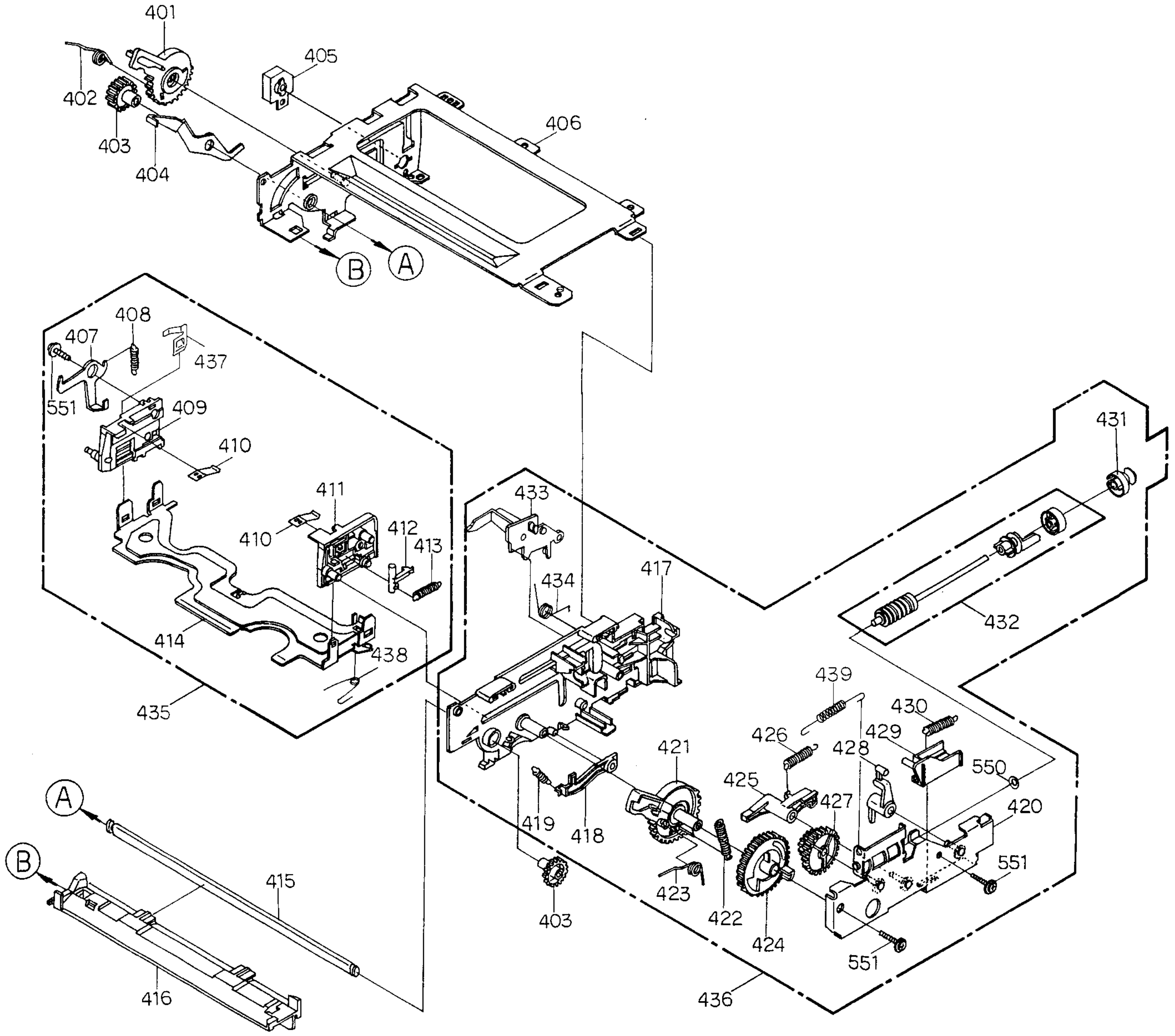
505

FRONT LOADING EXPLODED VIEW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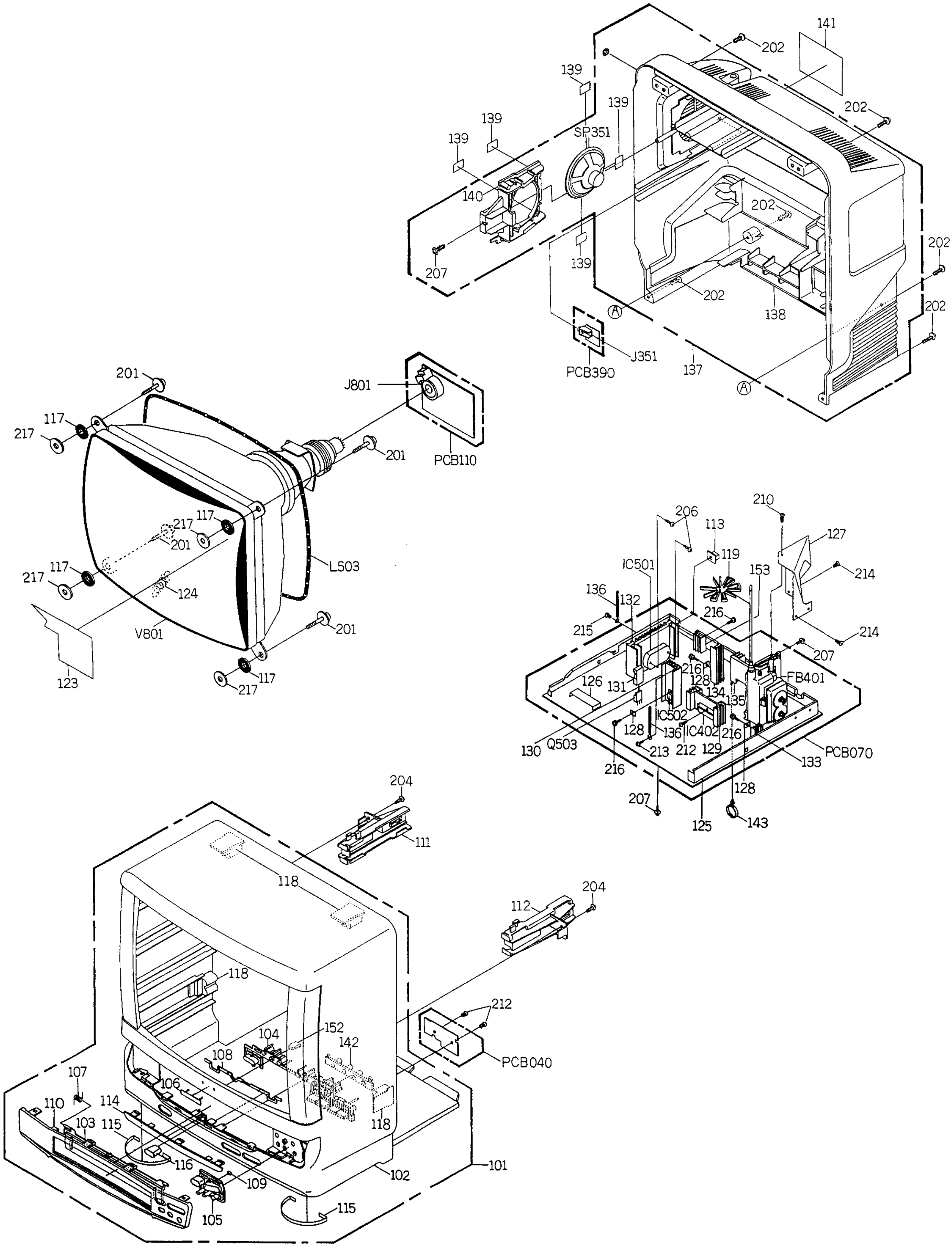
MECHANICAL EXPLODED VIEW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J351
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J801
117
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PCB110
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217
201
217
117
L503
124
V801
201
123
117
217
206
113
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IC501
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FB401
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134
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IC502
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136
IC402
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Q503
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212
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PCB070
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212
PCB040
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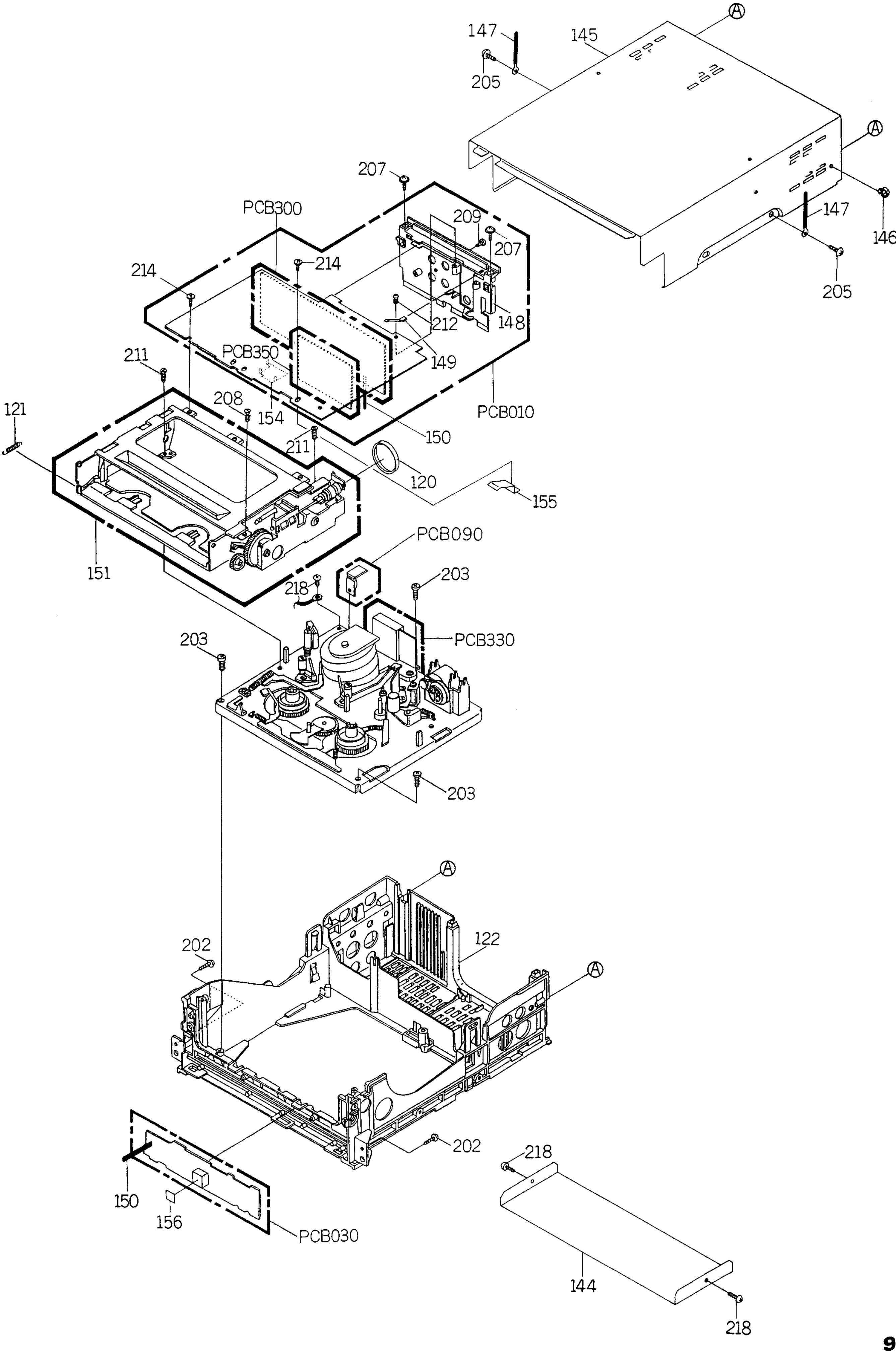
MECHANICAL EXPLODED VIEW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208
154
PCB010
121
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PCB090
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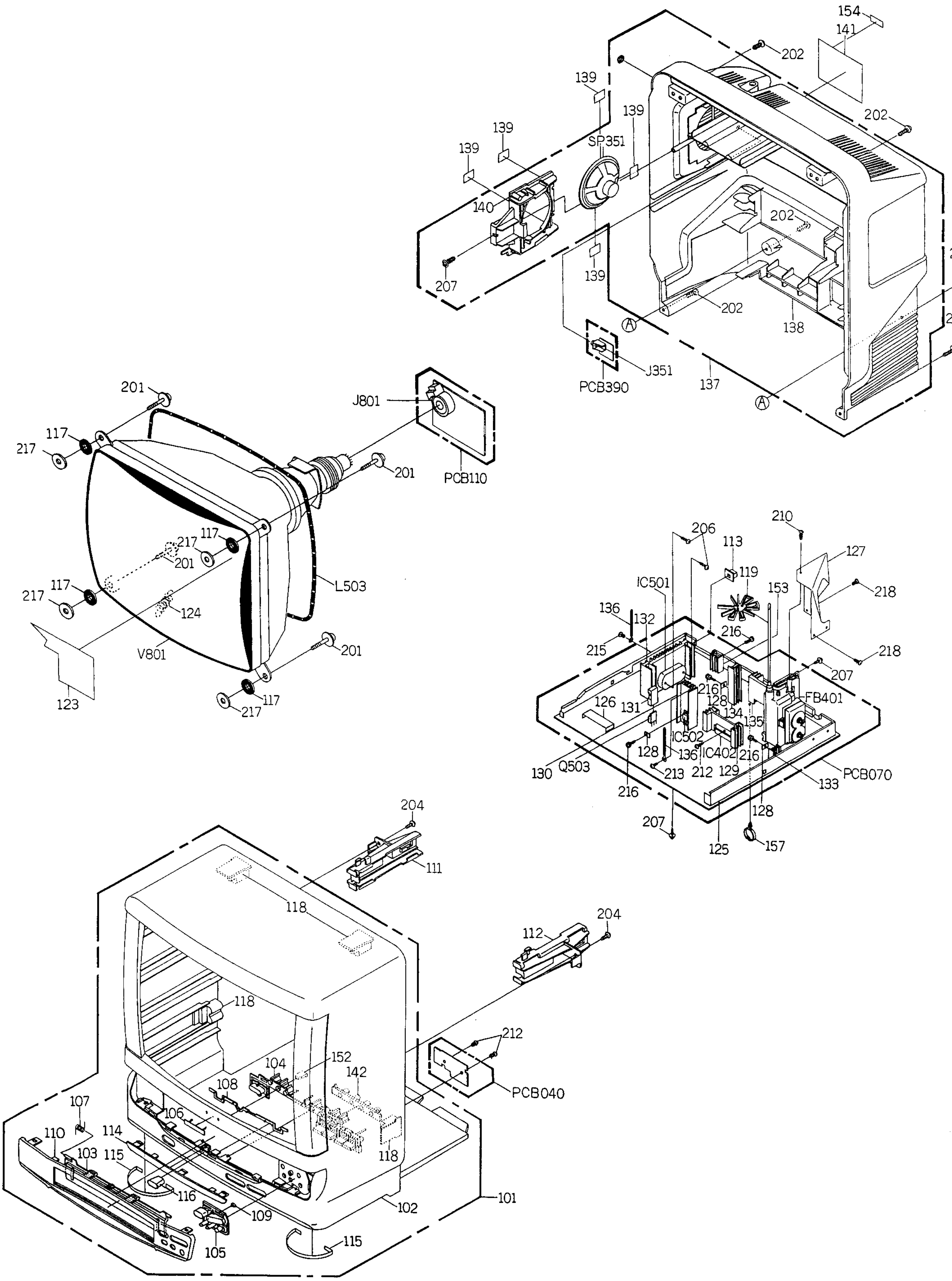
MECHANICAL EXPLODED VIEW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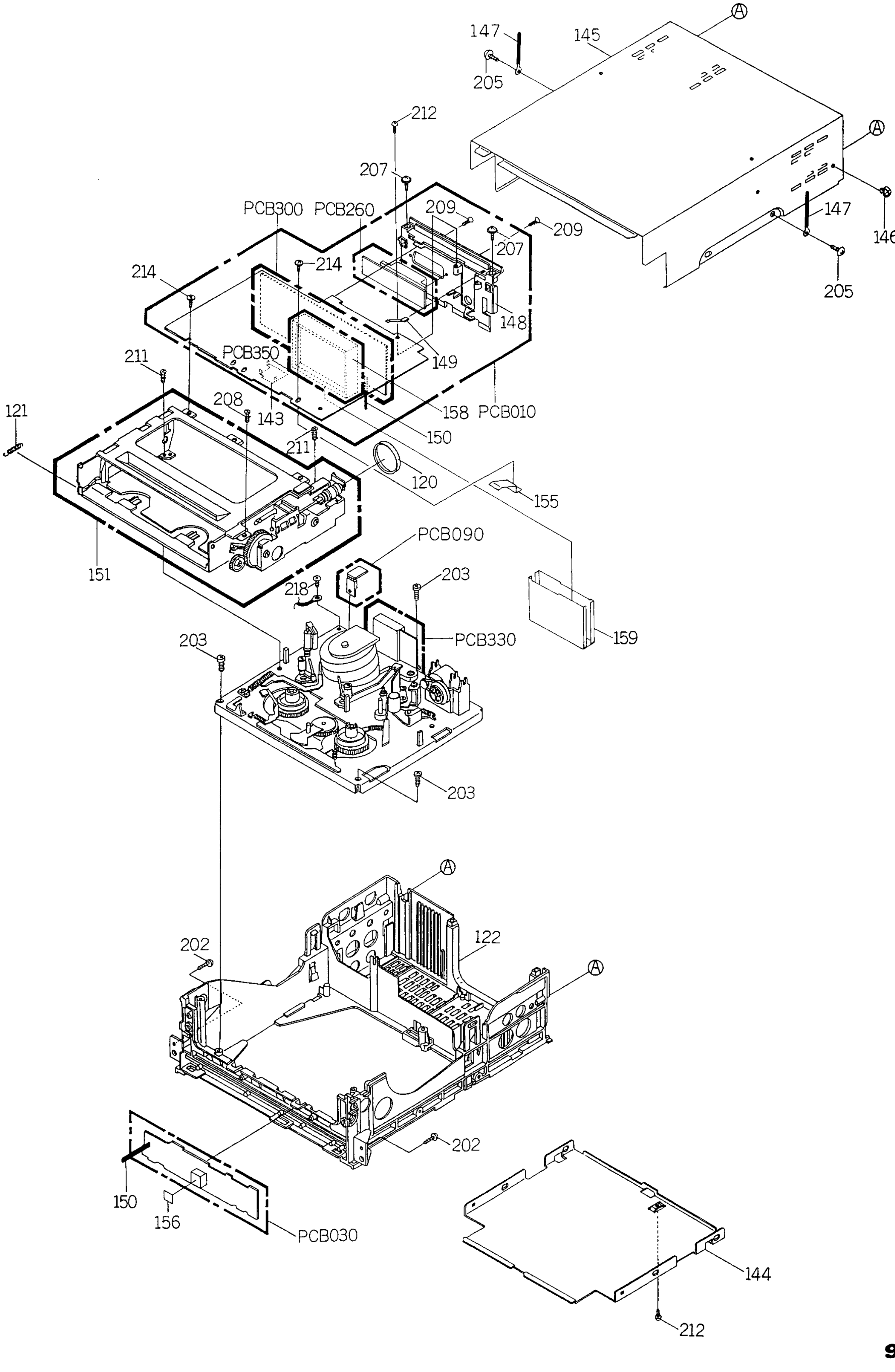
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MODEL: VX-T1410K

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
	VCR MAIN PCB ASS'Y	
	*** CAPACITORS ***	
C1010	87-010-078-010	CAP,E 47-6.3V OR
	S5-1HT-047-0M0	CAP,E 47-6.3V
C1016	87-010-045-010	CAP,E 100-25V
C1022	S0-1IT-047-1M0	CAP,E 470-6.3V
C1026	S5-5XT-P22-3Z0	CAP,E 0.022F-5.5V
C1031	87-016-079-010	CAP,E 100-6.3V
C2001	87-010-035-010	CAP,E 2.2-50V
C2003	87-010-029-010	CAP,E 1-50V
C2005	87-015-694-010	CAP,E 0.47-50V
C2006	87-010-552-010	CAP,E 22-16V
C2007	87-010-552-010	CAP,E 22-16V
C2008	87-015-694-010	CAP,E 0.47-50V
C2009	87-015-995-010	CAP,E 4.7-50V
C2010	87-015-995-010	CAP,E 4.7-50V
C2013	87-015-718-010	CAP,E 47-16V
C2016	87-015-973-010	CAP,E 22-16V
C2018	87-010-378-010	CAP,E 10-16V
C2020	87-010-912-010	CAP,E 1-50V
C2030	87-010-035-010	CAP,E 2.2-50V
C2036	87-010-035-010	CAP,E 2.2-50V
C2038	87-015-975-010	CAP,E 220-6.3V
C2040	87-010-912-010	CAP,E 1-50V
C4203	87-010-029-010	CAP,E 1-50V
C4204	87-010-221-010	CAP,E 470-10V
C4205	S0-1NT-247-0M0	CAP,E 47-16V
C4206	87-010-075-010	CAP,E 10-16V
C4212	87-010-564-010	CAP,E 100-16V
C4222	87-010-564-010	CAP,E 100-16V
C4223	S0-E7T-233-1M0	CAP,E 330-16V
C5003	87-015-973-010	CAP,E 22-16V
C5004	87-015-718-010	CAP,E 47-16V
C5005	87-010-029-010	CAP,E 1-50V
C5009	87-010-378-010	CAP,E 10-16V
C5016	87-015-995-010	CAP,E 4.7-50V
C5017	87-015-697-010	CAP,E 3.3-50V
C5020	87-010-029-010	CAP,E 1-50V
C5021	87-015-973-010	CAP,E 22-16V
C5031	87-015-718-010	CAP,E 47-16V
C5032	S3-11T-127-3J0	CAP,POLY 0.027-100V
C6015	87-010-221-010	CAP,E 470-10V
C6035	S0-ELT-222-1M0	CAP,E 220-16V
C6041	87-015-995-010	CAP,E 4.7-50V
C6501	87-015-718-010	CAP,E 47-16V
C6508	87-010-029-010	CAP,E 1-50V
C6509	87-015-697-010	CAP,E 3.3-50V
	*** DIODES ***	
D1002	S2-8T0-11E-100	DIODE,11E1TA1
D1003	S2-8T0-11E-100	DIODE,11E1TA1
D1006	S1-SS1-320-000	DIODE,1SS132T
D1007	S1-SS1-320-000	DIODE,1SS132T
D1008	S1-SS1-320-000	DIODE,1SS132T
D1022	S9-4TA-5R6-J20	ZENER,HZS5R6J
D1028	SD-7RN-202-K00	DIODE,DAN202K
D1040	S2-8T0-11E-100	DIODE,11E1TA1
D1055	S1-SS1-320-000	DIODE,1SS132T
D1056	S1-SS1-320-000	DIODE,1SS132T
D1057	S1-SS1-320-000	DIODE,1SS132T
D1059	S9-7U0-130-1B0	ZENER,MTZJ13B
D1060	S9-7U0-100-1C0	ZENER,MTZJ10C
D2001	S9-4TA-6R8-J20	ZENER,HZS6R8J
D2002	S9-4TA-6R8-J20	ZENER,HZS6R8J
D2003	S9-4TA-6R8-J20	ZENER,HZS6R8J
D2004	S2-8T0-11E-100	DIODE,11E1TA1
D2010	S1-SS1-320-000	DIODE,1SS132T
D2011	S1-SS1-320-000	DIODE,1SS132T
D2012	SD-3RL-FB0-1L0	DIODE,LFB-01L
D4201	S1-SS1-320-000	DIODE,1SS132T
	*** ICS ***	
IC1001	S5-4F5-003-6A0	IC,OEC0036
IC1002	S9-UJ0-T60-0F0	IC,PST600F-2
IC1003	S0-7S0-247-V10	IC,BA6247-V1
IC1005	S5-3D0-C02-A00	IC,ST24C02AB1
IC2001	S5-4D4-002-2A0	IC,OEC0022
IC2002	87-001-993-010	IC,BA10324
IC5001	S0-7T7-779-0L0	IC,BA7790LS
IC6002	S0-3D0-635-8T0	IC,LA6358T
IC6501	87-001-957-010	IC,LA7210
	*** TRANSISTORS ***	
Q1001	SD-WT0-111-100	TR,2SD1111
Q1002	SN-YTC-050-010	TR,DTC124E
Q1004	S8-YA2-412-K00	TR,2SC2412
Q1008	SN-YTC-050-010	TR,DTC124E
Q1011	SN-YTC-050-010	TR,DTC124E
Q1012	SN-YTC-050-010	TR,DTC124E
Q1013	SA-WT0-984-K00	TR,2SA984K
Q1014	SN-YTC-050-010	TR,DTC124E
	*** TRANSISTORS (CONT.) ***	
Q1015	S8-YA2-412-K00	TR,2SC2412
Q1016	S8-YA2-412-K00	TR,2SC2412
Q2002	S8-YA2-412-K00	TR,2SC2412
Q2003	89-110-372-010	TR,2SA1037KT
Q2004	SD-WT0-111-100	TR,2SD1111
Q2005	SB-WT0-092-6T0	TR,2SB926T
Q4203	89-324-122-010	TR,2SC2412
Q4204	SA-3T0-608-K00	TR,2SA608K
Q4205	SA-3T0-608-K00	TR,2SA608K
Q4206	SN-YTC-050-010	TR,DTC124E
Q4209	SN-YTC-050-010	TR,DTC124E
Q4210	SP-YTC-050-010	TR,DTA124E
Q5001	SN-YTC-050-010	TR,DTC124E
Q5002	SB-WT0-069-800	TR,2SB698
⚠ Q5005	89-313-172-010	TR,2SC1317
Q6006	89-305-366-010	TR,2SC536K(F,G)
Q6501	89-324-122-010	TR,2SC2412
	*** COILS ***	
L4202	S2-1B7-310-1K0	COIL,100UH
L4203	S2-1LA-68R-2K0	COIL,8.2UH
L5001	S2-1B7-310-1K0	COIL,100UH
L5002	S2-1B7-310-2K0	COIL,1MH
L5003	S2-1J7-468-2J0	COIL,6.8MH
L6012	S2-1B7-310-1K0	COIL,100UH
L6501	S2-1B7-310-1K0	COIL,100UH
PF5001	S3-262-300-3G0	COIL,TRAP 2623003
T5001	S3-362-600-3G0	COIL,BIAS OSC 3626003
	*** JACK ***	
J4201	S6-320-000-240	PLATE,JACK
	*** VARIABLE RESISTORS ***	
VR2001	S1-M63-H5B-T60	SFR,220KB
VR5001	S1-M63-14B-T60	SFR,10KB
VR5002	S1-263-E5B-T70	SFR,150KB
	*** CRYSTALS & CERAMIC OSCILLATOR ***	
X1001	S0-0C8-R39-020	X'TAL,8.388608MHZ
X1002	S0-0D3-2R8-010	X'TAL,32.768KHZ
X6501	S0-03R-500-010	CER,OSC KBR-500
	*** TUNER ***	
⚠ TU6001	S1-44T-070-190	TUNER UHF UE33-B5
	*** NETWORKS ***	
NR1001	S1-023-472-T10	ARRAY,4.7K X 3
NR1002	S1-023-472-T10	ARRAY,4.7K X 3
NR1003	S1-023-223-T10	ARRAY,22K X 3
	*** TRIMMER ***	
TC1001	S1-006-14T-080	CAP,TRIM VCT5
	OPERATION 1 PCB ASS'Y	
	*** CAPACITOR ***	
C8002	87-015-718-010	CAP,E 47-16V
	*** DIODES ***	
D8001	S0-213-501-200	LED,SLZ336B
D8002	S0-213-2Q0-200	LED,SLZ-136C
D8003	S0-213-501-200	LED,SLZ336B
D8004	S0-213-2Q0-200	LED,SLZ-136C
D8005	S0-213-501-200	LED,SLZ336B
D8006	S0-213-2Q0-200	LED,SLZ-136C
D8008	S0-213-2Q0-200	LED,SLZ-136C
D8010	S0-213-501-200	LED,SLZ336B
	*** TRANSISTOR ***	
Q8018	SC-3T0-536-S00	TR,2SC536
	*** SWITCHES ***	
SW8001	S5-041-01T-340	SW,TACT EVQ2150
SW8002	S5-041-01T-340	SW,TACT EVQ2150
SW8009	S5-041-01T-340	SW,TACT EVQ2150
SW8011	S5-041-01T-340	SW,TACT EVQ2150
SW8012	S5-041-01T-340	SW,TACT EVQ2150
	*** OTHER ***	
OS8001	S7-790-110-040	REM,RECEIV GP1U781R

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
	OPERATION 2 PCB ASS'Y	
	*** CAPACITOR ***	
C8004	SS-0RF-03H-4Z0	CAP,CER 0.022-25V
	*** DIODE ***	
D8007	S0-213-5Q0-900	LED,SLZ336B OR
	S0-213-5Q1-000	LED,SLZ336B
	*** TRANSISTOR ***	
Q8011	SN-YTA-050-010	TR.DTC143E
	*** SWITCHES ***	
SW8004	S5-041-01T-340	SW,TACT EVQ2150
SW8005	S5-041-01T-340	SW,TACT EVQ2150
SW8006	S5-041-01T-340	SW,TACT EVQ2150
SW8007	S5-041-01T-340	SW,TACT EVQ2150
SW8008	S5-041-01T-340	SW,TACT EVQ2150
	TV MAIN PCB ASS'Y	
	*** RESISTORS ***	
⚠ R419	87-029-007-010	RES,FUSE 22-1/4W
⚠ R434	S4-26T-21R-5F0	RES,M/O 1.5K-3W
⚠ R439	S4-26T-21R-5F0	RES,M/O 1.5K-3W
⚠ R441	87-029-367-010	RES,FUSE 2.2-1/2W
R444	S0-01T-422-4J0	RES,220K-1/4W
⚠ R446	S6-158-16R-8J0	RES,FUSE 6.8-1W
⚠ R447	S6-158-227-0J0	RES,FUSE 27-1/2W
⚠ R449	87-022-384-010	RES,M/O 8.2K-2W
⚠ R452	87-022-384-010	RES,M/O 8.2K-2W
⚠ R458	S6-158-16R-8J0	RES,FUSE 6.8-1W
⚠ R480	S6-158-268-0J0	RES,FUSE 68-1/2W
⚠ R501	S5-Y2C-E2R-2J0	RES,CEM 2.2-7W
⚠ R504	S3-U18-A47-3J0	RES,M/O 47K-2W
⚠ R505	87-022-475-010	RES,M/O 100-1W
⚠ R506	87-029-389-010	RES,FUSE 1K-1/4W
⚠ R508	S3-K28-BR8-2J0	RES,M/O 0.82-3W
⚠ R511	S6-158-15R-6J0	RES,FUSE 5.6-1W
⚠ R512	S3-U28-A56-2J0	RES,M/O 5.6-2W
⚠ R513	S3-U18-A15-0J0	RES,M/O 15-2W
⚠ R524	S0-11K-215-5J0	RES,1.5M-1/2W
R613	S4-25T-633-2F0	RES,M/O 3.3K-1/6W
R614	S4-25T-633-2F0	RES,M/O 3.3K-1/6W
⚠ R916	S6-15U-427-0J0	RES,FUSE 27-1/4W
	*** CAPACITORS ***	
C101	87-010-221-010	CAP,E 470-10V
C104	87-015-995-010	CAP,E 4.7-50V
C108	87-015-718-010	CAP,E 47-16V
C114	87-010-035-010	CAP,E 2.2-50V
C151	S0-E7T-210-1J0	CAP,E 100-50V
C156	87-015-995-010	CAP,E 4.7-50V
C161	87-015-995-010	CAP,E 4.7-50V
C351	87-010-387-010	CAP,E 470-25V
C352	87-010-912-010	CAP,E 1-50V
C353	87-010-560-010	CAP,E 10-50V
C354	87-010-560-010	CAP,E 10-50V
C356	87-010-622-010	CAP,E 470-16V
C358	87-010-564-010	CAP,E 100-16V
C365	87-010-560-010	CAP,E 10-50V
C370	87-015-995-010	CAP,E 4.7-50V
C403	87-015-694-010	CAP,E 0.47-50V
C406	S0-2ST-247-1M0	CAP,E 470-16V
C408	S2-320-022-5J0	CAP,TN 2.2-50V
C409	S6-26E-106-S00	CAP,E 100-35V
C413	87-010-029-010	CAP,E 1-50V
C414	S0-2ST-310-2M0	CAP,E 1000-25V
C418	S0-E2S-B01-0M0	CAP,E 1-160V
C422	S4-42A-991-2H0	CAP,M 0.0091-1600V
C423	S0-1BB-N7Q-2K0	CAP,CER 0.00047-2KV
C425	S4-41F-256-4J0	CAP,M 0.56-200V
⚠ C428	S0-E7F-D22-0M0	CAP,E 22-250V OR
	S0-250-D22-0M0	CAP,E 22-250V
	S0-25F-D22-0M0	CAP,E 22-250V
C429	87-015-524-010	CAP,E 1000-35V
C430	S0-E7T-D01-0M0	CAP,E 1-250V
C431	S0-E7T-547-0M0	CAP,E 47-50V
C436	87-010-490-010	CAP,E 0.1-50
C438	87-010-564-010	CAP,E 100-16V
C439	87-010-622-010	CAP,E 470-16V
C441	87-010-548-010	CAP,E 220-16V
C442	S0-34B-N71-3K0	CAP,CER 0.001-2KV
C443	S0-34B-N7Q-2K0	CAP,CER 470PF-2KV
C444	S0-E7T-52R-2M0	CAP,E 2.2-50V
C446	S0-E7T-501-0M0	CAP,E 1-50V
C453	S0-34B-N7Q-2K0	CAP,CER 470P-2KV
C502	S0-JBB-07H-3K0	CAP,CER 0.0022-2KV

REF.NO.	PART NO.	DESCRIPTION
	*** CAPACITORS (CONT.) ***	
C503	S0-JBB 07H-3K0	CAP,CER 0.0022-2KV
⚠ C505	S2-420-A22-4M0	CAP,M 0.22-125/250V
C507	S1-9A0-C01-040	CAP,E 100-400V
C508	S3-N1F-422-3J0	CAP,POLY 0.022-400V
C509	S0-34B-N7Q-2K0	CAP,CER 0.0022-2KV
C512	S0-34B-N7E-3K0	CAP,CER 0.0015-2KV
⚠ C515	S0-E7T-810-0M0	CAP,E 10-100V
C517	S0-34B-N7K-3K0	CAP,CER 0.0027-2KV
C521	S5-2E0-C18-1M0	CAP,E 180-160V
C522	87-010-035-010	CAP,E 2.2-50V
C523	87-010-564-010	CAP,E 100-16V
C524	87-010-906-010	CAP,E 2200-25V
C525	S0-2ST-210-1M0	CAP,E 100-16V
⚠ C531	SA-1B3-0KH-3M0	CAP,CER 2200-400V
C540	S0-2ST-210-1M0	CAP,E 10-160V
C541	S0-2ST-210-1M0	CAP,E 10-160V
C542	S0-E7T-54R-7M0	CAP,E 4.7-50V
C606	87-010-490-010	CAP,E 0.1-50V
C610	87-010-419-010	CAP,E 4.7-16V
C611	87-010-564-010	CAP,E 100-16V
C612	87-010-419-010	CAP,E 4.7-16V
C615	87-010-035-010	CAP,E 2.2-50V
C622	87-010-029-010	CAP,E 1-50V
C623	87-010-029-010	CAP,E 1-50V
C633	87-015-995-010	CAP,E 4.7-50V
C665	87-010-444-010	CAP,E 22-50V
C680	87-010-029-010	CAP,E 1-50V
C681	87-010-029-010	CAP,E 1-50V
C682	87-010-029-010	CAP,E 1-50V
C905	87-010-029-010	CAP,E 1-50V
C906	87-010-035-010	CAP,E 2.2-50V
C907	87-010-029-010	CAP,E 1-50V
C908	87-010-035-010	CAP,E 2.2-50V
C909	87-010-029-010	CAP,E 1-50V
C910	87-010-035-010	CAP,E 2.2-50V
C911	87-010-271-010	CAP,E 1000-16V
C914	87-010-271-010	CAP,E 1000-16V
C917	87-010-564-010	CAP,E 100-16V
C918	87-015-995-010	CAP,E 4.7-50V
C919	87-015-995-010	CAP,E 4.7-50V
	*** DIODES ***	
D101	87-020-870-010	DIODE,1S1585
D102	S2-8T0-11E-200	DIODE,11E2TA1
D104	S1-SS1-320-000	DIODE,1SS132T
D105	S9-2T0-6R2-B20	ZENER,RD6.2EB 2
D106	S1-SS1-320-000	DIODE,1SS132T
D107	S9-2T0-6R8-B20	ZENER,RD6.8EB 2
D115	S1-SS1-320-000	DIODE,1SS132T
D401	S9-2T0-6R8-B20	ZENER,RD6.8EB 2
D405	S2-8T1-0EL-S60	DIODE,10ELS6TA1
D407	S2-8T1-0EL-S60	DIODE,10ELS6TA1
D408	S2-8T1-0EL-S60	DIODE,10ELS6TA1
D410	S1-SS1-320-000	DIODE,1SS132T
D411	S9-2T0-9R1-B20	ZENER,RD9.1EB 2
D412	S2-3TF-D05-TG0	DIODE,DFD05TG
⚠ D501	S2-BTR-M11-C00	DIODE,RM11C
⚠ D502	S2-BTR-M11-C00	DIODE,RM11C
⚠ D503	S2-BTR-M11-C00	DIODE,RM11C
⚠ D504	S2-BTR-M11-C00	DIODE,RM11C
D505	S2-5T1-R5N-U00	DIODE,1R5NU41
D506	S9-2T0-7R5-B20	ZENER,RD7.5EB 2
D507	S2-8T0-11E-200	DIODE,11E2TA1
D508	S2-8T0-11E-200	DIODE,11E2TA1
⚠ D509	S2-8T1-0EL-S60	DIODE,10ELS6TA1
⚠ D510	S2-801-5DF-600	DIODE,15DF6
⚠ D511	S2-8T1-0EL-S20	DIODE,10ELS2TA1
⚠ D512	S2-811-DQ0-400	DIODE,21DQ04F
⚠ D513	S2-80F-5KF-200	DIODE,F5KF20
⚠ D514	S2-BT0-0R2-M00	DIODE,AVALANCHE R2M V1
D516	S2-8T0-11E-100	DIODE,11E1TA1
D517	S1-SS1-320-000	DIODE,1SS132T
D519	S2-8TE-QS0-400	DIODE,11EQS04
D604	S1-VT0-013-200	DIODE,1SS132T
D632	S1-SS1-320-000	DIODE,1SS132
TH501	S8-R0F-140-M00	DEGAUSS PTH451C26
	*** ICS ***	
IC101	S5-5D0-601-8A0	IC,OEC6018
IC102	S9-UJ0-T60-0H0	IC,PST600H
IC103	S5-5D0-HC0-2A0	IC,TC74HC02AP
⚠ IC351	S0-1SP-526-500	IC,AN5265
IC401	S0-5DE-886-700	IC,TA8867N
⚠ IC402	S0-5SD-844-500	IC,TA8445K
⚠ IC403	S0-X39-8M0-900	IC,UPC78M0
⚠ IC501	S2-3S9-006-000	IC,STK730-060
⚠ IC502	S0-3A9-780-5V0	IC,L7805V
⚠ IC503	S0-3B9-781-2V0	IC,L7812V-SA

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ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
	*** ICS (CONT.) ***	
⚠ IC504	87-027-327-010	IC,UPC574J-T
IC901	S0-5DE-887-200	IC,TA8872N
	*** TRANSISTORS ***	
Q101	SC-LT0-094-500	TR,2SC945A
Q102	SC-LT0-094-500	TR,2SC945A
Q103	SP-YTB-030-010	TR,DTA114E
Q104	SP-YTB-030-010	TR,DTA114E
Q106	SP-YTC-030-010	TR,DTA124E
Q107	SC-LT0-094-500	TR,2SC945A
Q150	SC-LT0-094-500	TR,2SC945A
Q151	SC-LT0-094-500	TR,2SC945A
Q156	SC-LT0-094-500	TR,2SC945A
Q161	SC-LT0-094-500	TR,2SC945A
Q166	SC-LT0-094-500	TR,2SC945A
Q171	SC-LT0-094-500	TR,2SC945A
Q352	SC-LT0-094-500	TR,2SC945A
Q370	SC-LT0-094-500	TR,2SC945A
Q401	SC-3T0-227-100	TR,2SC2271
⚠ Q402	SD-UG0-155-400	TR,2SD155
Q405	SC-LT0-094-500	TR,2SC945A
Q501	SC-3T0-290-900	TR,2SC2909
⚠ Q502	SA-3T1-371-A00	TR,2SA1371
⚠ Q503	SC-300-416-000	TR,2SC4160
Q504	SD-3T0-073-400	TR,2SD734
Q505	SB-3T0-089-200	TR,2SB892
Q506	SD-WT0-111-100	TR,2SD1111
Q602	SC-LT0-094-500	TR,2SC945A
Q604	SP-YTB-030-010	TR,DTA114E
Q605	SP-YTB-030-010	TR,DTA114E
Q608	SC-LT0-094-500	TR,2SC945A
Q609	SP-YTD-030-010	TR,DTA144E
Q610	SP-YTD-030-010	TR,DTA144E
Q611	SP-YTD-030-010	TR,DTA144E
Q612	SP-YTD-030-010	TR,DTA144E
Q621	SC-LT0-094-500	TR,2SC945A
Q622	SC-LT0-094-500	TR,2SC945A
Q626	SC-LT0-094-500	TR,2SC945A
Q627	SC-LT0-094-500	TR,2SC945A
Q903	89-109-522-010	TR,2SA952(C)
	*** COILS ***	
B401	S2-4JT-035-510	CORE,BEADS FBA04HA
B402	S2-4JT-035-510	CORE,BEADS FBA04HA
B501	S2-4JT-035-510	CORE,BEADS FBA04HA
B502	S2-4JT-035-510	CORE,BEADS FBA04HA
B503	S2-4JT-035-510	CORE,BEADS FBA04HA
B504	S2-4JT-035-510	CORE,BEADS FBA04HA
B505	S2-4JT-035-510	CORE,BEADS FBA04HA
B506	S2-4JT-035-510	CORE,BEADS FBA04HA
L101	87-003-147-010	COIL,22UH
L401	S2-167-947-2K0	COIL,4.7MH
L403	S2-2R0-000-080	COIL,LINE 2R000008
⚠ L501	S2-910-000-020	COIL,LINE 91000002
L504	S2-116-D68-0K0	COIL,68UH
L603	87-003-148-010	COIL,33UH
L604	87-003-143-010	COIL,4.7UH
L605	87-003-282-010	COIL,12UH
L680	87-003-284-010	COIL,27UH
T401	S3-305-Y00-1G0	TRANS,HORI.DRIVE 305Y001
	*** TRANSFORMERS ***	
⚠ FB401	S4-321-300-3A0	TRANS,FLYBACK 3213003A
⚠ T501	S4-813-500-8W0	TRANS,SW 8135008W
	*** SWITCH ***	
⚠ SW501	S5-301-050-050	SW,PUSH ESB-902
	*** VARIABLE RESISTORS ***	
VR170	S1-M63-E5B-T60	SFR,150KB
VR171	S1-M63-H3B-T60	SFR,2.2KB
VR401	S1-263-H4B-T70	SFR,22KB
VR402	S1-45D-13B-030	SFR,1KB
VR403	S1-M63-14B-T60	SFR,10KB
VR501	S1-M63-L5B-T60	SFR,330KB
	*** DELAY LINES ***	
DL601	S0-3S0-R28-020	DELAY,LINE ELT-10Z
DL602	S0-4Y1-4R4-3M0	DELAY,LINE EFD-EN6
	*** CRYSTAL & CERAMIC OSCILLATOR ***	
X101	S0-02T-4R1-020	CER,OSC CST4.19
X401	S0-02R-015-020	CER,OSC CSB503F
X602	S0-0W4-R43-B20	X'TAL,4.433619MHZ OR
	S0-064-R43-B20	X7TAL,4.43361875MHZ
	*** FUSE ***	
⚠ F501	S8-0PT-2R5-020	FUSE,2.5A
	*** RELAY ***	
⚠ RY501	S5-60Q-201-120	RELAY,OST-S-1 OR
	S5-607-201-110	RELAY,G5P-1-OR 12V
	*** IC PROTECTOR ***	
⚠ ICP501	S8-32H-010-010	MICRO FUSE CCV 1
⚠ ICP503	S8-4E0-020-010	IC,PRF-200
	TRANSISTOR PCB ASS'Y	
	*** IC ***	
⚠ IC1006	S0-1K9-780-900	IC,AN7809F
	CRT PCB ASS'Y	
	*** RESISTORS ***	
⚠ R802	S3-U18-110-3J0	RES,M/O 10K-1W
⚠ R805	S3-U18-110-3J0	RES,M/O 10K-1W
⚠ R810	S3-U18-110-3J0	RES,M/O 10K-1W
	*** CAPACITOR ***	
C813	S0-JBB-07H-3K0	CAP,CER 0.0022-2KV
	*** DIODES ***	
D801	S1-VT0-247-200	DIODE,1S2472T
D802	S1-VT0-247-200	DIODE,1S2472T
D803	S1-VT0-247-200	DIODE,1S2472T
	*** TRANSISTORS ***	
Q801	SA-3T0-162-400	TR,2SA1624
Q802	SA-3T0-162-400	TR,2SA1624
Q803	SA-3T0-162-400	TR,2SA1624
Q804	SC-3T0-346-800	TR,2SC3468
Q805	SC-3T0-346-800	TR,2SC3468
Q806	SC-3T0-346-800	TR,2SC3468
	*** COIL ***	
L801	S2-167-310-1K0	COIL,100UH
	*** CRT SOCKET ***	
⚠ J801	S6-661-200-090	SOCKET,CRT CVT3308
	Y/C PCB ASS'Y	
	*** CAPACITORS ***	
C4006	87-010-029-010	CAP,E 1-50V
C4012	87-015-973-010	CAP,E 22-16V
C4031	87-010-071-010	CAP,E 1-50V
C4033	87-010-378-010	CAP,E 10-16V
C4042	87-010-071-010	CAP,E 1-50V
C4049	87-010-378-010	CAP,E 10-16V
C4051	87-016-079-010	CAP,E 100-6.3V
C4053	87-010-075-010	CAP,E 10-16V
C4054	87-010-378-010	CAP,E 10-16V
C4067	87-015-718-010	CAP,E 47-16V
C4068	87-010-075-010	CAP,E 10-16V
C4309	87-015-694-010	CAP,E 0.47-50V
C4311	87-010-029-010	CAP,E 1-50V
C4322	87-010-378-010	CAP,E 10-16V
C4323	87-010-029-010	CAP,E 1-50V
C4326	87-015-697-010	CAP,E 3.3-50V
C4328	87-016-079-010	CAP,E 100-6.3V
	*** DIODES ***	
D4001	S1-SS1-320-000	DIODE,1SS132T
D4002	S1-SS1-320-000	DIODE,1SS132T
D4003	S9-4TA-6R8-J20	ZENER,HZS6R8J
D4007	S1-VT0-247-200	DIODE,1S2472T
D4008	SD-3RL-FB0-1L0	DIODE,LFB-01L
D4011	S1-VT0-247-200	DIODE,1S2472T
D4303	SD-3RL-FB0-1L0	DIODE,LFB-01L
D4304	SD-3RL-FB0-1L0	DIODE,LFB-01L
D4305	S1-VT0-247-200	DIODE,1S2472T
	*** ICS ***	
IC4001	S0-3D3-748-000	IC,LA7480
IC4002	S0-3D3-899-250	IC,LC89925
	*** TRANSISTORS ***	
Q4002	89-324-122-010	TR,2SC2412
Q4003	89-324-122-010	TR,2SC2412
Q4004	89-324-122-010	TR,2SC2412

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ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
	*** TRANSISTORS (CONT.) ***	
Q4005	89-324-122-010	TR,2SC2412
Q4008	89-324-122-010	TR,2SC2412
Q4010	89-110-372-010	TR,2SA1037KT
Q4012	SN-YTC-050-010	TR,DTC124E
Q4013	89-324-122-010	TR,2SC2412
Q4014	89-110-372-010	TR,2SA1037KT
Q4016	SN-YTC-050-010	TR,DTC124E
Q4305	SN-YTC-050-010	TR,DTC124E
Q4307	SN-YTC-050-010	TR,DTC124E
Q4308	SN-YTC-050-010	TR,DTC124E
Q4309	SP-YTC-050-010	TR,DTA124E
Q4310	SN-YTC-050-010	TR,DTC124E
Q4315	89-324-122-010	TR,2SC2412
	*** COILS ***	
L4001	87-003-146-010	COIL,15UH
L4002	S2-1LA-612-1K0	COIL,120UH
L4003	S2-1B7-310-1K0	COIL,100UH
L4004	S2-1LA-656-0K0	COIL,56UH
L4005	87-003-147-010	COIL,22UH
L4006	87-003-102-010	COIL,10UH
L4007	87-003-288-010	COIL,180UH
L4010	87-003-148-010	COIL,33UH
L4011	87-003-153-010	COIL,150UH
L4013	S2-1JA-627-1K0	COIL,270UH
L4014	S2-1B6-339-1K0	COIL,82UH
L4015	87-003-144-010	COIL,6.8UH
L4016	87-003-147-010	COIL,22UH
L4019	S2-1B7-310-1K0	COIL,100UH
L4020	S2-1B7-310-1K0	COIL,100UH
L4301	S2-1JA-627-1K0	COIL,270UH
L4302	S2-1J7-947-1J0	COIL,470UH
L4303	S2-1J7-933-1J0	COIL,330UH
L4304	S2-1B7-36R-8K0	COIL,6.8UH
L4305	S2-1B7-310-1K0	COIL,100UH
L4308	87-003-102-010	COIL,10UH
L4310	87-003-146-010	COIL,15UH
L4320	S2-1B6-339-1K0	COIL,390UH
	*** VARIABLE RESISTORS ***	
VR4001	S1-263-14B-TA0	SFR,10KB
VR4003	S1-263-H4B-TA0	SFR,22KB
VR4004	S1-263-H4B-TA0	SFR,22KB
VR4005	S1-263-14B-TA0	SFR,10KB
	*** FILTER ***	
PF4001	S1-4JL-506-020	LPF,4JL5060
	*** DELAY LINE ***	
DL4302	S0-412-4R4-390	DELAY,LINE EFD-JF1 OR
	S0-412-4R4-3B0	DELAY,LINE EFD-JLA
	*** CRYSTAL ***	
X4301	S0-06A-4R3-030	X'TAL,4.43361MHZ
	HEAD AMP PCB ASS'Y	
	*** CAPACITOR ***	
C4102	87-010-553-010	CAP,E 47-16V
	*** IC ***	
IC4101	87-002-792-010	IC,LA7376ST
	*** COIL ***	
L4101	S2-1B7-B10-1K0	COIL,100UH
	IF PCB ASS'Y	
	*** CAPACITORS ***	
C6011	87-010-490-010	CAP,E 0.1-50V
C6014	87-015-995-010	CAP,E 4.7-50V
C6019	87-015-694-010	CAP,E 0.47-50V
C6022	87-010-035-010	CAP,E 2.2-50V
C6027	87-015-718-010	CAP,E 47-16V
C6034	87-015-694-010	CAP,E 0.47-50V
R6026	87-010-560-010	CAP,E 10-50V
	*** DIODES ***	
D6001	S1-SS1-320-000	DIODE,1SS132T
D6003	S1-SS1-320-000	DIODE,1SS132T
D6502	S1-SS1-320-000	DIODE,1SS132T
	*** IC ***	
IC6001	S0-3DA-757-7L0	IC,LA7577L

REF.NO.	PART NO.	DESCRIPTION
	*** TRANSISTORS ***	
Q6003	SN-3TC-050-010	TR,2SC3396
Q6004	SC-3T0-300-000	TR,2SC3000
Q6005	S8-YA2-412-K00	TR,2SC2412
Q6008	S6-3A0-117-900	TR,2SA117
	*** COILS ***	
L6001	S2-1LA-61R-5M0	COIL,1.5UH
L6003	87-003-102-010	COIL,10UH
L6004	87-003-141-010	COIL,1.2UH
L6005	87-003-146-010	COIL,15UH
L6006	87-003-146-010	COIL,15UH
L6007	87-003-150-010	COIL,68UH
L6008	S2-1B7-310-1K0	COIL,100UH
L6009	87-003-102-010	COIL,10UH
L6010	S3-360-K00-3N0	COIL,V IFT 360K003
L6011	S3-360-K00-4N0	COIL,V IFT 360K004
	*** VARIABLE RESISTORS ***	
VR6001	S1-263-14B-TA0	SFR,10KB
VR6002	S1-263-14B-TA0	SFR,10KB
	*** FILTERS ***	
CF6001	S0-280-39R-540	FILT,SAW TSF1306
CF6003	S0-12T-6R0-020	CER,FIL SFE6.0M
CF6004	S0-12T-6R0-030	CER,FIL TPS6.0M
CF6005	S0-12T-6R0-050	CER,FIL CDSH6.0
	EARPHONE PCB ASS'Y	
	*** JACK ***	
J351	S6-0C1-210-080	JACK,RCA 3.5
	AND OTHERS	
⚠ L503	S2-8Q1-400-180	COIL,DEGAUSS 8Q140018
⚠ CD501	S2-0S6-358-020	AC.CORD 120S635802
SP351	S7-0V1-310-030	SPKR S08J72 OR
	S7-0T1-310-070	SPKR A-30C-1378
⚠ V801	S9-8Q1-404-250	CRT,370KRB22-T OR
	S9-8G1-404-250	CRT,370KRB22-T
⚠	S5-000-083-100	DY,ZEC-91403

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CHASSIS/FRONT LOADING REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	Q'TY
301	S5-OP5-000-230	TRANSISTOR SPR	1
302	S5-OA6-001-390	TENSION.BAND ASS'Y	1
303	S5-OA4-000-770	TENTION ARM ASS'Y	1
304	S5-OP8-001-410	TENTION ARM SPR	1
305	S5-OA2-000-360	S REEL ASS'Y	1
306	S5-OA6-001-360	MAIN BRAKE S ASS'Y	1
307	S5-OP8-001-870	MAIN BRAK SPR	2
308	S5-OP6-003-090	ARM.S-S BRAKE	1
309	S5-OP8-001-640	SS BRAK SPR	1
310	S5-OA4-001-080	BASE.S INCLINED ASS'Y	1
311	S5-OP8-001-900	MAIN BRAK SPR 3	1
312	S5-OA2-000-350	T REEL ASS'Y	1
313	S5-OA6-001-350	MAIN BRAKE T ASS'Y	1
314	S5-OA4-001-090	BASE.T INCLINED ASS'Y	1
315	S5-OP6-004-320	ROLLER.IMPEDANCE	1
316	S5-OP0-002-850	CS-RING 2.6-5.4-T0.1	1
317	S1-471-308-040	VIT+3-8	1
318	S5-OP6-003-060	LEVER.REC.SW	1
319	S5-OP5-000-420	AC HEAD BASE 2	1
320	S5-OP8-002-330	SPR.AC HEAD BASE 2	1
321	S5-OA6-001-480	LOAD MOTOR BOX A A'Y	1
322	S5-OP6-003-170	BELT.LOADING MOTOR	1
323	S5-OA5-000-080	PINCH ROLLER LEVER ASS'Y	1
324	S5-OP6-003-140	X ADJ NUT	1
325	-----	MAIN CHASS ASS'Y Z2	1
326	S5-OA4-000-730	PINCH ROLLER ARM ASS'Y	1
327	S5-OP8-001-490	PINCH ROLLER ARM SPR	1
328	S5-OA4-000-780	LIMIT.POST ARM ASS'Y	1
329	S5-OP8-001-480	LIMIT POST ARM SPR	1
330	S5-OP6-003-050	CAM 1	1
331	S5-OA6-001-140	WORM ASS'Y	1
332	S5-OA4-001-020	G-ROLLER ASS'Y	1
333	S5-OA3-000-310	LOUD LEVER 2 ASS'Y	1
334	S5-OP6-004-540	LEVER.SUB BRAKE	1
335	S5-OA9-000-830	FRONT LOUD LEVER ASS'Y	1
336	S5-OA3-000-300	LOUD ARM ASS'Y(TU)	1
337	S5-OA3-000-290	LOUD ARM ASS'Y(SUP)	1
338	S5-OA6-001-370	TS BRAKE ASS'Y	1
339	S5-OP8-001-650	TS BRAK SPR	1
340	S5-OA2-000-430	CLUTCH ASS'Y	1
341	S5-OA2-000-380	IDLER JS ASS'Y	1
342	S5-OP6-004-100	LEVER.MAIN BRAKE 1	1
343	S5-OP6-003-100	ACTUATOR.SUB BRAKE	1
344	S5-OA6-001-290	CLUTCH ACTUATOR JS ASS'Y	1
345	S5-OP6-003-030	TENTION LEVER	1
346	S5-OP4-003-260	O-RING	1
347	S5-OP6-003-810	SLIDE.MAIN BRAKE	1
348	S5-OP8-001-880	MB SLIDE SPR	1
349	S5-OA6-001-090	MB LEVER 2 ASS'Y	1
350	S5-OA6-001-080	TENTION ARM SLIDE ASS'Y	1
351	S5-OP6-004-160	LEVER.LIMITER POST	1
352	S5-OP6-004-090	LEVER.CLUTCH ACTUATOR	1
353	S5-OP3-001-120	SLIDE LOUDING 2	1
354	S5-OP6-003-040	CAM 2	1
355	S5-OA6-000-990	MAIN BRAK LEVER 3 ASS'Y	1
356	S5-OA3-000-430	GEAR LOADING S ASS'Y	1
357	S5-OA3-000-440	GEAR LOADING T ASS'Y	1
358	S5-OP8-001-910	LOUD GEAR SPR	2
359	S5-OP8-001-670	AJIMTH SPR	1
360	S1-44J-306-040	SCREW.M3-6	1
361	S1-462-30A-310	SCREW.M3-13	1
362	S5-OP5-000-100	ADJ NUT	1
363	S5-OP8-001-890	FLONT LOUD LEVER SPR	1
364	S5-OP6-003-190	PULLEY.LOADING MOTOR	1
365	S5-OP6-003-160	BELT.REEL	1
366	S5-OA4-000-880	GUIDE ROLLER ASS'Y	1
367	-----	LID.AMP SHIELD	1
368	-----	CASE.AMP SHIELD	1
369	S5-OP0-002-620	WORM BRAKET 3	1
370	S5-OP6-003-150	BELT.FRONT LOADING	1
371	S5-OA4-001-120	ARM.AHC UNIT	1
372	S5-OP8-002-360	SPR.AHC 1	1
373	S5-OA6-001-520	BRAKE.TB 2 ASSY	1
374	S5-OP6-004-570	ARM.S-B BRAKE	1
401	S5-OP9-004-300	RING GEAR(L)	1
402	S5-OP8-001-750	SPR RING GEAR(L)	1
403	S5-OP9-005-250	SYNCHRO GEAR	2
404	S5-OP9-004-510	FLAP LEVER 2	1
405	S5-OP9-004-400	SENSOR COVER	1
406	S5-OA9-001-280	TOP BRAKE ASS'Y	1
407	S5-OP9-004-580	LOCKER	1
408	S5-OP8-001-540	LOCKER SPR	1
409	S5-OP9-005-350	CASS.SIDE L	1
410	S5-OP9-003-540	PACK SPR	1
411	S5-OP9-005-360	CASS.SIDE RA	1
412	S5-OP9-004-740	REMOVING 2	1
413	S5-OP8-001-980	SPR.REMOVING 2	1
414	S5-OA9-001-220	CASS HOLDER SUB ASS'Y	1
415	S5-OP9-002-670	SYNCHRO SHAFT	1
416	S5-OP9-005-290	TAPE GUIDE PIECE	1
417	S5-OP9-005-320	BRAKT.SIDE RIA	1
418	S5-OP9-004-160	FRONT LOUD SWITCH LEVER	1
419	S5-OP8-001-580	FRONT LOUD SW LEVER SPR	1
420	S5-OA9-001-290	SIDE BRAKE R2 ASS'Y	1
421	S5-OP9-004-310	RING GEAR(R)	1
422	S5-OP8-001-530	CLUCH GEAR SPR	1
423	S5-OP8-001-810	RING GEAR SPR R2	1
424	S5-OP9-004-320	CLUCH GEAR	1
425	S5-OP9-004-170	LOCK LEVER	1
426	S5-OP8-001-590	LOCK LEVER SPR	1
427	S5-OP9-004-380	WHEEL	1
428	S5-OP9-004-350	CLUCH LEVER	1
429	S5-OP9-004-340	SLIDE LEVER	1
430	S5-OP8-001-800	SLIDE LEVER SPR 2	1
431	S5-OP9-005-310	JOINT PULLEY 2	1
432	S5-OA9-000-890	WORM ASS'Y	1
433	S5-OP9-004-500	OPENER A	1
434	S5-OP8-001-720	OPENER SPR A	1
435	S4-510-1A6-900	HOLDR.CASS ASS'Y	1
436	S4-480-2A6-400	BRKT.SIDE R ASS'Y	1
437	S5-OP9-005-230	FRONT LOUD EARTH SPR	1
438	S5-OP8-002-300	LOCKER(R)SPR	1
439	S5-OP8-002-430	SPR.EARTH	1
501	S1-071-266-040	UT2+2.6-6	3
502	S1-021-304-040	V+3-4	2
503	S1-072-268-040	VT2+2.6-8	1
504	S1-072-30A-440	TAP(S)V+3-14	2
505	S1-072-30A-640	UT2+3-16	2
506	S1-072-306-040	TAP(S)U+3-6	3
507	S1-072-308-040	TAP(S)U+3-8	3
508	S1-102-308-040	UT2+3-8	1
509	S3-ETW-250-000	E RING 2.5	2
510	S2-Q31-54B-3NO	PW.3.1-5.4-T0.13	2
	S2-Q31-540-3NO	PW.3.1-5.4-T0.3	2
511	S2-P25-550-4NO	PW(CUT)2.5-5.5-T0.4	8
512	S2-P30-600-5NO	PW(CUT)3.1-6.0-T0.5	4
513	S2-A32-700-540	WASHER 3.1-7.0-T0.5	2
514	S2-A40-800-540	WASHER 4.3-8.0-T0.5	1
515	S1-022-266-010	UT2+2.6-6	1
516	S1-5DJ-203-020	SCREW.M2*3	2
517	S1-45J-306-010	SCREW.M3*6	1
518	S3-CST-350-500	CS RING 3.5	2
519	S3-ETW-300-600	E RING 3.0	1
520	S1-17B-268-040	(BO)WH6 2.6*8	1
521	S2-P26-60C-5NO	PW(CUT)2.6-6.0-T0.25	1
522	S1-072-304-040	UIT+3-4	2
523	S1-071-261-440	VIT+2.6-14	1
524	S1-071-264-040	VIT+2.6-4	1
550	S2-Q31-540-5NO	PW.3.1-5.4-T0.5	1
551	S6-817-CGA-040	SCREW.(BO)U+2.6*10	3
552	S1-072-205-040	UIT+2-5	2
D1101	S0-10G-000-300	LED.GL451T	1
H5001	S5-23D-910-150	HEAD.A/C HVMZA1141A	1
H5002	S5-43D-020-050	FEH.HVFHF0001A	1
⚠ L1501	S2-BH0-000-050	MAGNET JTM1002-01-0100	1
⚠ M101	S5-96P-580-080	MOTOR.LOAD MXN-13FB	1
⚠ M2001	S5-103-980-240	CAPSTAN.MOTOR F2QTB02	1
Q1101	S0-00G-000-400	PHOTO.TR PT493FT	1
Q1102	S0-00G-000-400	PHOTO.TR PT493FT	1
Q1510	S0-023-001-400	PHOTO.SPI-315-04	1
SW101	S5-002-110-010	PUSH SWITCH SPPB61023A	1
SW102	S5-20U-440-020	SW.ROTARY SRZZ0B0	1
SW103	S5-012-110-010	SW.PUSH SPPB51096A	1
⚠ UN4001	S4-880-1A5-000	CYLINDER UNIT ASSY	1

MECHANICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	Q'TY
101	-----	CABI.FRONT ASS'Y	1
102	S0-1WP-J02-180	CABI.FRONT	1
103	S1-2WP-D00-610	FLAP	1
104	S3-5WP-B00-030	BUTTON.CONTROL	1
105	S3-5WP-D01-100	BUTTON.DECK	1
106	S2-344-900-070	BADGE.BRAND	1
107	S4-3WK-A00-050	SPR.FLAP	1
108	S1-3WP-A00-260	GLASS.LED(1)	1
109	S1-3WP-A00-270	GLASS.LED(2)	1
110	S1-1WP-J00-020	PANEL.DECK	1
111	-----	HLDR.PCB(L)	1
112	-----	HLDR.PCB(R)	1
113	S3-5MP-A00-140	BUTTON.POWER	1
114	S1-1WP-D00-640	PLATE.FRONT	1
115	-----	LABEL.FOOT	2
116	S1-3WP-A00-280	GUIDE.REMOCON	1
117	-----	SH.CRT SUPPORT(A)	4
118	-----	CABI.HOLDER	4
119	-----	HLDR.ANODE LEAD	1
120	S5-0P6-004-380	BELT.FRONT LOAD 2	1
121	S5-0P8-001-570	SPR.FLAP FRONT LOAD	1
122	S0-2WP-A01-410	CABI.INSIDE	1
123	-----	FILM.DECORATION	1
124	-----	SPR.EARTH	1
125	-----	FRAME.PCB	1
126	-----	SHIELD.IC	1
127	-----	ANGLE.FBT	1
128	-----	METAL SPACER	3
129	-----	HEAT SINK	1
130	-----	HEAT SINK	1
131	-----	HEAT SINK	1
132	-----	HEAT SINK	1
133	-----	HEAT SINK	1
134	-----	HEAT SINK	1
135	-----	HEAT SINK	1
136	-----	CORD CLAMP NO.PEC-034-0	2
137	-----	CABI.BACK ASS'Y	1
138	S0-2WP-A01-060	CABI.BACK	1
139	-----	SH 18-15-T0.8	5
140	-----	HLDR.SPKR	1
141	-----	SH.RATING	1
142	-----	HLDR.BUTTON CONTROL	1
143	S9-9SF-111-000	WIRE.CLAMP	1
144	S5-2WS-A00-450	PLATE.NOISE SHIELD	1
145	S0-2WS-A00-120	CABI.TOP	1
146	S9-0UA-MS0-700	MINI CLAMP	1
147	-----	CORD CLAMP NO.P-45	2
148	S7-1WP-A00-890	PLATE.JACK(7)	1
149	-----	SPR.EARTH M-PCB	1
150	-----	COATING CLIP CP-1S	2
151	S4-890-1A6-500	FRONT LOAD UNIT(FL-6B)	1
152	-----	HLDR.PANEL DECK	1
153	-----	HEAT SINK	1
154	S5-2WS-A00-460	PLATE.SHIELD	1
155	S5-3WU-A00-080	SPR.EARTH P-TOP	1
156	S5-4JN-A00-040	PLATE.REMOCON(B)	1
201	S1-41J-50D-040	GW22+5-40	4
202	S1-175-40A-640	TAP(BO)4-16	8
203	S1-171-40A-240	TAP(BO)V+4-12	3
204	S1-175-40A-240	TRUSS+4-12	2
205	S1-175-40A-040	TAP(BO)4-10	2
206	S1-106-30A-440	UIT+3-14	2
207	S1-17D-30A-040	TAP(BO)3-10	5
208	S1-173-30A-040	TAP(BO)3-10	1
209	S1-174-30A-020	TAP(BO)3-10	1
210	S1-106-30A-040	UIT+3-10	1
211	S1-072-308-040	TAP(S)U+3-8	2
212	S1-106-308-040	TAP(P)3-8	5
213	S1-106-306-040	UIT+3-6	1
214	S1-072-306-040	TAP(S)U+3-6	2
215	S1-072-304-040	UIT+3-4	1
216	S1-0A1-308-040	WASHER(A)M3-8	4
217	-----	WASHER 9.1*22-T1	4
218	S1-076-306-040	TAP(S)3-6	5

ACCESSORY REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	Q'TY
CD001	S6-82B-A40-010	RCA.CORD FXP1496	1
TM101	S7-6G0-200-900	REMOTE CONTROLLER	1
---	S3-B60-801-010	INSTRUCTION BOOK	1

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ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
	VCR MAIN PCB ASS'Y	
	*** CAPACITORS ***	
C1010	87-010-078-010	CAP,E 47-6.3V OR
	S5-1HT-047-0M0	CAP,E 47-6.3V
C1016	87-010-045-010	CAP,E 100-25V
C1022	S0-1IT-047-1M0	CAP,E 470-6.3V
C1026	S5-5XT-P22-3Z0	CAP,E 0.022F-5.5V
C1031	87-016-079-010	CAP,E 100-6.3V
C2001	87-010-035-010	CAP,E 2.2-50V
C2003	87-010-029-010	CAP,E 1-50V
C2005	87-015-694-010	CAP,E 0.47-50V
C2006	87-010-552-010	CAP,E 22-16V
C2007	87-010-552-010	CAP,E 22-16V
C2008	87-015-694-010	CAP,E 0.47-50V
C2009	87-015-995-010	CAP,E 4.7-50V
C2010	87-015-995-010	CAP,E 4.7-50V
C2013	87-015-718-010	CAP,E 47-16V
C2016	87-015-973-010	CAP,E 22-16V
C2018	87-010-378-010	CAP,E 10-16V
C2020	87-010-912-010	CAP,E 1-50V
C2030	87-010-035-010	CAP,E 2.2-50V
C2036	87-010-035-010	CAP,E 2.2-50V
C2038	87-015-975-010	CAP,E 220-6.3V
C2040	87-010-912-010	CAP,E 1-50V
C4205	87-010-370-010	CAP,E 330-6.3V
C4206	87-010-075-010	CAP,E 10-16V
C4212	87-010-564-010	CAP,E 100-16V
C4222	87-010-564-010	CAP,E 100-16V
C4223	S0-E7T-233-1M0	CAP,E 330-16V
C4501	87-010-078-010	CAP,E 47-6.3V
C4503	87-010-378-010	CAP,E 10-16V
C4504	87-010-029-010	CAP,E 1-50V
C4505	87-010-029-010	CAP,E 1-50V
C4506	87-010-078-010	CAP,E 47-6.3V
C4507	87-010-078-010	CAP,E 47-6.3V
C4508	87-010-078-010	CAP,E 47-6.3V
C4509	87-015-718-010	CAP,E 47-16V
C4512	87-010-564-010	CAP,E 100-16V
C5003	87-015-973-010	CAP,E 22-16V
C5004	87-015-718-010	CAP,E 47-16V
C5005	87-010-029-010	CAP,E 1-50V
C5009	87-010-378-010	CAP,E 10-16V
C5016	S0-E3T-54R-7M0	CAP,E 4.7-50V
C5017	87-015-697-010	CAP,E 3.3-50V
C5020	87-010-029-010	CAP,E 1-50V
C5021	87-015-973-010	CAP,E 22-16V
C5031	87-015-718-010	CAP,E 47-16V
C5032	S3-11T-127-3J0	CAP,POLY 0.027-2KV
C6015	S0-E3T-247-0M0	CAP,E 47-16V
C6035	S0-ELT-222-1M0	CAP,E 220-16V
C6037	87-010-035-010	CAP,E 2.2-50V
C6038	87-010-035-010	CAP,E 2.2-50V
C6039	87-010-035-010	CAP,E 2.2-50V
C6041	87-015-995-010	CAP,E 4.7-50V
C6051	87-015-718-010	CAP,E 47-16V
C6501	87-015-718-010	CAP,E 47-16V
C6506	87-015-694-010	CAP,E 0.47-50V
C6508	87-010-029-010	CAP,E 1-50V
C6509	87-015-697-010	CAP,E 3.3-50V
	*** DIODES ***	
D1002	S2-8T0-11E-100	DIODE,11E1TA1
D1003	S2-8T0-11E-100	DIODE,11E1TA1
D1006	S1-SS1-320-000	DIODE,1SS132T
D1007	S1-SS1-320-000	DIODE,1SS132T
D1008	S1-SS1-320-000	DIODE,1SS132T
D1022	S9-4TA-5R6-J20	ZENER,HZS5R6J
D1028	SD-7RN-202-K00	DIODE,DAN202K
D1040	S2-8T0-11E-100	DIODE,11E1TA1
D1057	S1-VT0-013-200	DIODE,1SS132T
D1059	S9-7U0-130-1B0	ZENER,MTZJ13B
D1060	S9-7U0-100-1C0	ZENER,MTZJ10C
D2001	S9-4TA-6R8-J20	ZENER,HZS6R8J
D2002	S9-4TA-6R8-J20	ZENER,HZS6R8J
D2003	S9-4TA-6R8-J20	ZENER,HZS6R8J
D2004	S2-8T0-11E-100	DIODE,11E1TA1
D2010	S1-SS1-320-000	DIODE,1SS132T
D2011	S1-SS1-320-000	DIODE,1SS132T
D2012	SD-3RL-FB0-1L0	DIODE,LFB-01L
D4201	S1-SS1-320-000	DIODE,1SS132T
D4502	S9-4TA-6R8-J20	ZENER,HZS6R8J
D5001	SD-3RL-FB0-1L0	DIODE,LFB-01L
D5002	SD-3RL-FB0-1L0	DIODE,LFB-01L
D6005	S1-SS1-320-000	DIODE,1SS132T
	*** ICS ***	
IC1001	S5-4F5-003-6A0	IC,OEC0036
IC1002	S9-UJ0-T60-0F0	IC,PST600F-2
IC1003	S0-7S0-247-V10	IC,BA6247-V1

REF.NO.	PART NO.	DESCRIPTION
	*** ICS (CONT.) ***	
IC1005	S5-3D0-002-A00	IC,ST24C02AB1
IC2001	S5-4D4-002-2A0	IC,OEC0022
IC2002	87-001-993-010	IC,BA10324
IC4501	S0-7F0-760-900	IC,BA7609F
IC5001	S0-7T7-779-0L0	IC,BA7790LS
IC6002	S0-3D0-635-8T0	IC,LA6358T
⚠ IC6004	S0-MI9-057-4J0	IC,UPC574J-T
IC6005	87-020-396-010	IC,LA7910
IC6501	87-001-957-010	IC,LA7210
	*** TRANSISTORS ***	
Q1001	SD-WT0-111-100	TR,2SD1111
Q1002	SN-YTC-050-010	TR,DTC124E
Q1004	S8-YA2-412-K00	TR,2SC2412
Q1008	SN-YTC-050-010	TR,DTC124E
Q1011	SN-YTC-050-010	TR,DTC124E
Q1012	SN-YTC-050-010	TR,DTC124E
Q1013	SA-WT0-984-K00	TR,2SA984K
Q1014	SN-YTC-050-010	TR,DTC124E
Q1015	S8-YA2-412-K00	TR,2SC2412
Q1016	S8-YA2-412-K00	TR,2SC2412
Q2002	S8-YA2-412-K00	TR,2SC2412
Q2003	89-110-372-010	TR,2SA1037KT
Q2004	SD-WT0-111-100	TR,2SD1111
Q2005	SB-WT0-092-6T0	TR,2SB926T
Q4204	SA-3T0-608-K00	TR,2SA608K
Q4205	SA-3T0-608-K00	TR,2SA608K
Q4206	SN-YTC-050-010	TR,DTC124E
Q4209	SN-YTC-050-010	TR,DTC124E
Q4210	SP-YTC-050-010	TR,DTA124E
Q4501	89-324-122-010	TR,2SC2412
Q4502	SA-3T0-608-K00	TR,2SA608K
Q4503	SN-YTC-050-010	TR,DTC124E
Q5001	SN-YTC-050-010	TR,DTC124E
Q5002	SB-WT0-069-800	TR,2SB698
⚠ Q5005	89-313-172-010	TR,2SC1317
Q6006	89-305-366-010	TR,2SC536K
Q6501	89-324-122-010	TR,2SC2412
	*** COILS ***	
B1001	S2-4JT-035-510	CORE,BEADS FBA04HA
B1002	S2-4JT-035-510	CORE,BEADS FBA04HA
L4202	S2-1B7-310-1K0	COIL,100UH
L4203	S2-1L9-68R-2K0	COIL,8.2UH
L4501	S2-1B7-310-1K0	COIL,100UH
L4502	S2-1B7-310-1K0	COIL,100UH
L5001	S2-1B7-310-1K0	COIL,100UH
L5002	S2-1B7-310-2K0	COIL,1MH
L5003	S2-1J7-468-2J0	COIL,6.8MH
L6013	S2-1B7-310-1K0	COIL,100UH
L6501	S2-1B7-310-1K0	COIL,100UH
PF5001	S3-262-300-3G0	COIL,TRAP 2623003
T5001	S3-362-600-3G0	COIL,BIAS OSC 3626003
	*** VARIABLE RESISTORS ***	
VR2001	S1-M63-H5B-T60	SFR,220KB
VR5001	S1-M63-14B-T60	SFR,10KB
VR5002	S1-263-E5B-T70	SFR,150KB
	*** CRYSTALS & CERAMIC OSILLATOR ***	
X1001	S0-0C8-R39-020	X'TAL,8.388608MHZ
X1002	S0-0D3-2R8-010	X'TAL,32.768KHZ
X6501	S0-03R-500-010	CER,OSC KBR-500
	*** TUNER ***	
⚠ TU6001	S1-45V-010-200	TUNER,V/UHF TERE1-0N1A
	*** NETWORKS ***	
NR1001	S1-023-472-T10	ARRAY,4.7K X 3
NR1002	S1-023-472-T10	ARRAY,4.7K X 3
NR1003	S1-023-223-T10	ARRAY,22K X 3
	*** TRIMMER ***	
TC1001	S1-006-14T-080	CAP,TRIM VCT5
	OPERATION 1 PCB ASS'Y	
	*** CAPACITOR ***	
C8002	87-015-718-010	CAP,E 47-16V
	*** DIODES ***	
D8001	S0-213-501-200	LED,SLZ336B
D8002	S0-213-2Q0-200	LED,SLZ-136C
D8003	S0-213-501-200	LED,SLZ336B

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ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
	*** DIODES (CONT.) ***	
D8004	S0-213-2Q0-200	LED,SLZ-136C
D8005	S0-213-501-200	LED,SLZ336B
D8006	S0-213-2Q0-200	LED,SLZ-136C
D8008	S0-213-2Q0-200	LED,SLZ-136C
D8010	S0-213-501-200	LED,SLZ336B
	*** TRANSISTOR ***	
Q8018	SC-3T0-536-S00	TR,2SC536
	*** SWITCHES ***	
SW8001	S5-041-01T-340	SW,TACT EVQ2150
SW8002	S5-041-01T-340	SW,TACT EVQ2150
SW8009	S5-041-01T-340	SW,TACT EVQ2150
SW8011	S5-041-01T-340	SW,TACT EVQ2150
SW8012	S5-041-01T-340	SW,TACT EVQ2150
	*** OTHER ***	
OS8001	S7-790-110-040	REM,RECEIV GP1U781R
	OPERATION 2 PCB ASS'Y	
	*** DIODE ***	
D8007	S0-213-5Q0-900 S0-213-5Q1-000	LED,SLZ336B OR LED,SLZ336B
	*** TRANSISTOR ***	
Q8011	SN-YTA-050-010	TR,DTC143E
	*** SWITCHES ***	
SW8004	S5-041-01T-340	SW,TACT EVQ2150
SW8005	S5-041-01T-340	SW,TACT EVQ2150
SW8006	S5-041-01T-340	SW,TACT EVQ2150
SW8007	S5-041-01T-340	SW,TACT EVQ2150
SW8008	S5-041-01T-340	SW,TACT EVQ2150
	TV MAIN PCB ASS'Y	
	*** RESISTORS ***	
⚠ R419	87-029-007-010	RES,FUSE 22-1/4W
⚠ R434	S3-U20-B15-2J0	RES,M/O 1.5K-3W
⚠ R439	S3-U20-B15-2J0	RES,M/O 1.5K-3W
⚠ R441	87-029-367-010	RES,FUSE 2.2-1/2W
⚠ R444	S0-01T-422-4J0	RES,220K-1/4W
⚠ R446	S6-158-16R-8J0	RES,FUSE 6.8-1W
⚠ R447	S6-158-227-0J0	RES,FUSE 27-1/2W
⚠ R449	S3-U20-A82-2J0	RES,M/O 8.2K-2W
⚠ R452	S3-U20-A82-2J0	RES,M/O 8.2K-2W
⚠ R458	S6-158-16R-8J0	RES,FUSE 6.8-1W
⚠ R480	S6-158-268-0J0	RES,FUSE 68-1/2W
⚠ R501	S5-Y2C-E2R-2K0	RES,CEM 2.2-7W
⚠ R504	S3-U18-A47-3J0	RES,M/O 47K-2W
⚠ R505	87-022-475-010	RES,M/O 100-1W
⚠ R506	87-029-389-010	RES,FUSE 1K-1/4W
⚠ R508	S3-U28-BR8-2J0	RES,M/O 0.82-3W
⚠ R511	S6-158-14R-7J0	RES,FUSE 4.7-1W
⚠ R512	S3-U28-A56-2J0	RES,M/O 5.6-2W
⚠ R513	S3-U18-A15-0J0	RES,M/O 15-2W
⚠ R524	S0-11K-215-5J0	RES,1.5M-1/2W
R613	S4-25T-633-2F0	RES,M/O 3.3K-1/6W
R614	S4-25T-633-2F0	RES,M/O 3.3K-1/6W
⚠ R916	S6-15U-427-0J0	RES,FUSE 27-1/4W
	*** CAPACITORS ***	
C101	87-010-221-010	CAP,E 470-10V
C104	87-015-995-010	CAP,E 4.7-50V
C108	87-015-718-010	CAP,E 47-16V
C114	87-010-035-010	CAP,E 2.2-50V
C151	S0-E7T-233-0M0	CAP,E 33-16V
C156	87-015-995-010	CAP,E 4.7-50V
C161	87-015-995-010	CAP,E 4.7-50V
C351	87-010-387-010	CAP,E 470-25V
C352	87-010-912-010	CAP,E 1-50V
C353	87-010-560-010	CAP,E 10-50V
C354	87-010-560-010	CAP,E 10-50V
C356	87-010-622-010	CAP,E 470-16V
C358	87-010-564-010	CAP,E 100-16V
C365	87-010-560-010	CAP,E 10-50V
C370	87-015-995-010	CAP,E 4.7-50V
C403	87-015-694-010	CAP,E 0.47-50V
⚠ C406	S0-2YT-247-1M0	CAP,E 470-16V
C408	S2-320-022-5J0	CAP,TN 2.2-50V
C409	S6-26E-106-S00	CAP,E 100-35V
C413	87-010-029-010	CAP,E 1-50V
⚠ C414	S0-2ST-310-2M0	CAP,E 1000-25V

REF.NO.	PART NO.	DESCRIPTION
	*** CAPACITORS (CONT.) ***	
⚠ C418	S0-2ST-B01-0M0	CAP,E 1-160V
⚠ C422	S4-42A-991-2H0	CAP,M 0.0091-1600V
C423	S0-34B-N7L-2K0	CAP,CER 330P-2KV
⚠ C425	S4-41F-256-4J0	CAP,M 0.56-200V
⚠ C428	S0-E7F-D22-0M0	CAP,E 22-250V
⚠ C429	87-015-524-010	CAP,E 1000-35V
C430	S0-E7T-D01-0M0	CAP,E 1-250V
C431	S0-E7T-222-1M0	CAP,E 220-16V
C436	S6-M3T-033-4J0	CAP,E 0.33-50V
C438	S0-ELT-247-1M0	CAP,E 100-16V
C439	87-010-622-010	CAP,E 470-16V
C441	87-010-548-010	CAP,E 220-16V
C442	S0-34B-N71-3K0	CAP,CER 0.001-2KV
C443	S0-34B-N7Q-2K0	CAP,CER 470P-2KV
C444	87-010-029-010	CAP,E 1-50V
C446	S0-E7T-501-0M0	CAP,E 1-50V
C453	S0-34B-N7Q-2K0	CAP,CER 470P-2KV
C502	S0-JBB-07H-3K0	CAP,CER 0.0022-2KV
C503	S0-JBB-07H-3K0	CAP,CER 0.0022-2KV
⚠ C505	S2-420-A22-4M0	CAP,M 0.22-125/250V
⚠ C506	S2-420-A10-4M0	CAP,M 0.1-125/250V
⚠ C507	S1-9A0-C01-040	CAP,E 100-400V
C508	S3-N1F-422-3J0	CAP,POLY 0.022-400V
C509	S0-34B-N7Q-2K0	CAP,CER 470P-2KV
C512	S0-34B-N7E-3K0	CAP,CER 0.0015-2KV
⚠ C515	S0-E7T-810-0M0	CAP,E 10-100
C517	S0-34B-N7K-3K0	CAP,CER 0.0027-2KV
⚠ C521	S5-2E0-C18-1M0	CAP,E 180-200V
⚠ C522	87-010-035-010	CAP,E 2.2-50V
⚠ C523	S0-ELT-210-1M0	CAP,E 100-16V
⚠ C524	87-010-906-010	CAP,E 2200-25V
⚠ C525	S0-2ST-210-1M0	CAP,E 100-16V
⚠ C531	SA-303-091-3M0	CAP,CER 1000P-4KV
⚠ C532	SA-303-09H-3M0	CAP,CER 2200-4KV
⚠ C534	SA-303-091-3M0	CAP,CER 1000-4KV
C540	87-010-964-010	CAP,E 10-160V
C541	87-010-964-010	CAP,E 10-160V
C542	S0-E70-54R-7M0	CAP,E 4.7-50V
C606	87-010-490-010	CAP,E 0.1-50
C610	87-010-419-010	CAP,E 4.7-16V
C611	87-010-564-010	CAP,E 100-16V
C612	87-010-419-010	CAP,E 4.7-16V
C615	87-010-035-010	CAP,E 2.2-50V
C622	87-010-029-010	CAP,E 1-50V
C623	S0-E60-501-0M0	CAP,E 1-50V
C633	87-015-995-010	CAP,E 4.7-50V
C665	87-010-444-010	CAP,E 22-50V
C680	87-010-029-010	CAP,E 1-50V
C681	87-010-029-010	CAP,E 1-50V
C682	87-010-029-010	CAP,E 1-50V
C905	87-010-029-010	CAP,E 1-50V
C906	87-010-035-010	CAP,E 2.2-50V
C907	87-010-029-010	CAP,E 1-50V
C908	87-010-035-010	CAP,E 2.2-50V
C909	87-010-029-010	CAP,E 1-50V
C910	87-010-035-010	CAP,E 2.2-50V
C911	87-010-271-010	CAP,E 1000-16V
C914	S0-E70-222-2M0	CAP,E 2200-16V
C917	87-010-564-010	CAP,E 100-16V
C918	87-015-995-010	CAP,E 4.7-50V
C919	87-015-995-010	CAP,E 4.7-50V
C955	S0-E7T-210-2M0	CAP,E 1000-16V
	*** DIODES ***	
D101	87-020-870-010	DIODE,1S1585
D102	S2-8T0-11E-200	DIODE,11E2TA1
D104	S1-SS1-320-000	DIODE,1SS132T
D105	S9-2T0-6R2-B20	ZENER,RD6.2EB 2
D106	S1-SS1-320-000	DIODE,1SS132T
D107	S9-2T0-6R8-B20	ZENER,RD6.8EB 2
D115	S1-SS1-320-000	DIODE,1SS132T
D401	S9-2T0-6R8-B20	ZENER,RD6.8EB 2
D405	S2-8T1-0EL-S60	DIODE,10ELS6TA1
D407	S2-8T1-0EL-S60	DIODE,10ELS6TA1
⚠ D408	S2-8T1-0EL-S60	DIODE,10ELS6TA1
D410	S1-SS1-320-000	DIODE,1SS132T
D411	S9-2T0-9R1-B20	ZENER,RD9.1EB 2
⚠ D412	S2-3TF-D05-TG0	DIODE,DFD05TG
⚠ D501	S2-BTR-M11-C00	DIODE,RM11C
⚠ D502	S2-BTR-M11-C00	DIODE,RM11C
⚠ D503	S2-BTR-M11-C00	DIODE,RM11C
⚠ D504	S2-BTR-M11-C00	DIODE,RM11C
D505	S2-5T1-R5N-U00	DIODE,1R5NU41
D506	S9-2T0-7R5-B20	ZENER,RD7.5EB 2
D507	S2-8T0-11E-200	DIODE,11E2TA1
D508	S2-8T0-11E-200	DIODE,11E2TA1
⚠ D509	S2-8T1-0EL-S60	DIODE,10ELS6TA1
⚠ D510	S2-801-5DF-600	DIODE,15DF6
⚠ D511	S2-8T1-0EL-S20	DIODE,10ELS2TA1

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
	*** DIODES (CONT.) ***	
⚠ D512	S2-811-DQ0-400	DIODE,21DQ04F
⚠ D513	S2-80F-5KF-200	DIODE,F5KF20
⚠ D514	S2-BT0-0R2-M00	DIODE,AVALANCHE R2M V1
D516	S2-8T0-11E-100	DIODE,11E1TA1
D517	S1-SS1-320-000	DIODE,1SS132T
D519	S2-8TE-QS0-400	DIODE,11EQS04
D604	S1-VT0-013-200	DIODE,1SS
D632	S1-SS1-320-000	DIODE,1SS132T
D701	S9-200-6R8-B20	DIODE,RD6.8EB2
D702	S9-200-6R8-B20	DIODE,RD6.8EB2
D703	S9-200-6R8-B20	DIODE,RD6.8EB2
⚠ TH501	S8-R0F-140-M00	DEGAUSS PTH451C26
	*** ICS ***	
IC101	S5-5D0-601-8A0	IC,OEC6018
IC102	S9-UJ0-T60-0H0	IC,PST600H
IC103	S5-5D0-HC0-2A0	IC,TC74HC02AP
⚠ IC351	S0-1SP-526-500	IC,AN5265
IC401	S0-5DE-886-700	IC,TA8867N
⚠ IC402	S0-5SD-844-500	IC,TA8445K
⚠ IC403	S0-X39-8M0-900	IC,UPC78M0
⚠ IC501	S2-3S9-006-000	IC,STK730-060
⚠ IC502	S0-3A9-780-5V0	IC,L7805V
⚠ IC503	S0-3B9-781-2V0	IC,L7812V-SA
IC901	S0-5DE-887-200	IC,TA8872N
	*** TRANSISTORS ***	
Q101	SC-LT0-094-500	TR,2SC945A
Q102	SC-LT0-094-500	TR,2SC945A
Q103	SP-QTB-030-010	TR,DTA114E
Q104	SP-QTB-030-010	TR,DTA114E
Q106	SP-QTC-030-010	TR,DTA124E
Q107	SC-LT0-094-500	TR,2SC945A
Q150	SC-LT0-094-500	TR,2SC945A
Q151	SC-LT0-094-500	TR,2SC945A
Q156	SC-LT0-094-500	TR,2SC945A
Q161	SC-LT0-094-500	TR,2SC945A
Q166	SC-LT0-094-500	TR,2SC945A
Q171	SC-LT0-094-500	TR,2SC945A
Q352	SC-LT0-094-500	TR,2SC945A
Q370	SC-LT0-094-500	TR,2SC945A
⚠ Q401	SC-3T0-227-100	TR,2SC2271
⚠ Q402	SD-UG0-155-400	TR,2SD155
Q405	SC-LT0-094-500	TR,2SC945A
Q415	SC-LT0-094-500	TR,2SC945A
Q501	SC-3T0-290-900	TR,2SC2909
⚠ Q502	SA-3T1-371-A00	TR,2SA1371
⚠ Q503	SC-300-416-000	TR,2SC4160
Q504	SD-3T0-073-400	TR,2SD734
Q505	SB-3T0-089-200	TR,2SB892
Q506	SD-WT0-111-100	TR,2SD1111
Q602	SC-LT0-094-500	TR,2SC945A
Q604	SP-QTB-030-010	TR,DTA114E
Q605	SP-QTB-030-010	TR,DTA114E
Q608	SC-LT0-094-500	TR,2SC945A
Q609	SP-QTD-030-010	TR,DTA144E
Q610	SP-QTD-030-010	TR,DTA144E
Q611	SP-QTD-030-010	TR,DTA144E
Q612	SP-QTD-030-010	TR,DTA144E
Q621	SD-3T0-073-400	TR,2SD734
Q622	SC-LT0-094-500	TR,2SC945A
Q626	SC-LT0-094-500	TR,2SC945A
Q627	SC-LT0-094-500	TR,2SC945A
Q701	SD-3T0-073-400	TR,2SD734
Q903	89-109-522-010	TR,2SA952(C)
	*** COILS ***	
B401	S2-4JT-035-510	CORE,BEADS FBA04HA
B402	S2-4JT-035-510	CORE,BEADS FBA04HA
B501	S2-4JT-035-510	CORE,BEADS FBA04HA
B502	S2-4JT-035-510	CORE,BEADS FBA04HA
B503	S2-4JT-035-510	CORE,BEADS FBA04HA
B504	S2-4JT-035-510	CORE,BEADS FBA04HA
B505	S2-4JT-035-510	CORE,BEADS FBA04HA
B506	S2-4JT-035-510	CORE,BEADS FBA04HA
L101	87-003-147-010	COIL,22UH
L401	S2-167-947-2K0	COIL,4.7MH
L403	S2-2R0-000-080	COIL,LINE 2R000008
⚠ L501	S2-910-000-020	COIL,LINE 91000002
⚠ L502	S2-910-000-020	COIL,LINE 91000002
L504	S2-116-D68-0K0	COIL,68UH
L603	87-003-148-010	COIL,33UH
L604	S2-1LA-64R-7K0	COIL,4.7UH
L605	87-003-282-010	COIL,12UH
L680	87-003-284-010	COIL,27UH
T401	S3-305-Y00-1G0	TRANS,HORI DRIVE 305Y001

REF.NO.	PART NO.	DESCRIPTION
	*** TRANSFORMERS ***	
⚠ FB401	S4-321-300-3A0	TRANS,FLYBACK 3213003A
⚠ T501	S4-813-500-8W0	TRANS,SW 8135008W
	*** SWITCH ***	
⚠ SW501	S5-301-050-050	SW,PUSH ESB-902
	*** VARIABLE RESISTORS ***	
VR170	S1-M63-E5B-T60	SFR,150KB
VR171	S1-M63-H3B-T60	SFR,2.2KB
VR401	S1-263-H4B-T70	SFR,22KB
VR402	S1-45D-13B-030	SFR,1KB
VR403	S1-M63-14B-T60	SFR,10KB
VR501	S1-M63-L5B-T60	SFR,330KB
	*** DELAY LINES ***	
DL601	S0-3S0-R28-020	DELAY,LINE ELT-10Z
DL602	S0-4Y1-4R4-3M0	DELAY,LINE EFD-EN6
	*** CRYSTAL & CERAMIC OSILLATOR ***	
X101	S0-02T-4R1-020	CER,OSC CST4.19
X401	S0-02R-015-020	CER,OSC CSB503F
X602	S0-0W4-R43-B20	X'TAL,4.433619MHZ OR
	S0-064-R43-B20	X'TAL,4.43361875MHZ
	*** FUSE ***	
⚠ F501	S8-0PT-2R5-020	FUSE,2.5A
	*** RELAY ***	
⚠ RY501	S5-60Q-201-120	RELAY,OST-S-1 OR
	S5-607-201-110	RELAY,G5P-1-OR 12V
	*** IC PROTECTOR ***	
⚠ ICP501	S8-32H-010-010	MICRO FUSE CCV 1
⚠ ICP503	S8-4E0-020-010	IC,PRF-200
	TRANSISTOR PCB ASS'Y	
	*** IC ***	
⚠ IC1006	S0-1K9-780-900	IC,AN7809F
	*** OTHER ***	
CP7505	S6-7R0-030-190	WIRE HOLDER 51048-0
	CRT PCB ASS'Y	
	*** RESISTORS ***	
⚠ R802	S3-U18-110-3J0	RES,M/O 10K-1W
⚠ R805	S3-U18-110-3J0	RES,M/O 10K-1W
⚠ R810	S3-U18-110-3J0	RES,M/O 10K-1W
	*** CAPACITOR ***	
C813	S0-JBB-07H-3K0	CAP,CER 0.0022-2KV
	*** DIODES ***	
D801	S1-VT0-247-200	DIODE,1S2472T
D802	S1-VT0-247-200	DIODE,1S2472T
D803	S1-VT0-247-200	DIODE,1S2472T
D804	S9-2T0-120-B20	ZENER,RD12EB2
D805	S9-2T0-120-B20	ZENER,RD12EB2
D806	S9-2T0-120-B20	ZENER,RD12EB2
	*** TRANSISTORS ***	
⚠ Q801	SA-3T0-162-400	TR,2SA1624
⚠ Q802	SA-3T0-162-400	TR,2SA1624
⚠ Q803	SA-3T0-162-400	TR,2SA1624
⚠ Q804	SC-3T0-346-800	TR,2SC3468
⚠ Q805	SC-3T0-346-800	TR,2SC3468
⚠ Q806	SC-3T0-346-800	TR,2SC3468
	*** COIL ***	
L801	S2-167-310-1K0	COIL,100UH
	*** CRT SOCKET ***	
⚠ J801	S6-661-200-090	SOCKET,CRT CVT3308
	21PIN PCB ASS'Y	
	*** JACK ***	
J4501	S6-321-000-290	SOCKET,21P HXC1525

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
	Y/C PCB ASS'Y	
	*** CAPACITORS ***	
C4006	87-010-029-010	CAP,E 1-50V
C4012	87-015-973-010	CAP,E 22-16V
C4031	87-010-071-010	CAP,E 1-50V
C4033	87-010-378-010	CAP,E 10-16V
C4042	87-010-071-010	CAP,E 1-50V
C4049	87-010-378-010	CAP,E 10-16V
C4051	87-016-079-010	CAP,E 100-6.3V
C4053	87-010-075-010	CAP,E 10-16V
C4054	87-010-378-010	CAP,E 10-16V
C4067	87-015-718-010	CAP,E 47-16V
C4068	87-010-075-010	CAP,E 10-16V
C4309	87-015-694-010	CAP,E 0.47-50V
C4311	87-010-029-010	CAP,E 1-50V
C4323	87-010-029-010	CAP,E 1-50V
C4326	87-015-697-010	CAP,E 3.3-50V
C4328	87-016-079-010	CAP,E 100-6.3V
	*** DIODES ***	
D4001	S1-SS1-320-000	DIODE,1SS132T
D4002	S1-SS1-320-000	DIODE,1SS132T
D4003	S9-4TA-6R8-J20	ZENER,HZS6R8J
D4008	SD-3RL-FB0-1L0	DIODE,LFB-01L
	*** ICS ***	
IC4001	S0-3D3-748-000	IC,LA7480
IC4002	S0-3D3-899-250	IC,LC89925
	*** TRANSISTORS ***	
Q4002	89-324-122-010	TR,2SC2412
Q4003	89-324-122-010	TR,2SC2412
Q4004	89-324-122-010	TR,2SC2412
Q4005	89-324-122-010	TR,2SC2412
Q4008	89-324-122-010	TR,2SC2412
Q4010	89-110-372-010	TR,2SA1037KT
Q4012	SN-YTC-050-010	TR,DTC124E
Q4013	89-324-122-010	TR,2SC2412
Q4014	89-110-372-010	TR,2SA1037KT
Q4305	SN-YTC-050-010	TR,DTC124E
Q4308	SN-YTC-050-010	TR,DTC124E
Q4315	89-324-122-010	TR,2SC2412
	*** COILS ***	
L4001	87-003-146-010	COIL,15UH
L4002	S2-1LA-612-1K0	COIL,120UH
L4003	S2-1B7-310-1K0	COIL,100UH
L4005	87-003-147-010	COIL,22UH
L4006	87-003-102-010	COIL,10UH
L4007	87-003-288-010	COIL,180UH
L4010	87-003-148-010	COIL,33UH
L4011	87-003-153-010	COIL,150UH
L4013	S2-1JA-627-1K0	COIL,270UH
L4014	S2-1LA-682-0K0	COIL,82UH
L4015	S2-1B7-36R-8K0	COIL,6.8UH
L4016	87-003-147-010	COIL,22UH
L4019	S2-1B7-310-1K0	COIL,100UH
L4020	S2-1B7-310-1K0	COIL,100UH
L4301	S2-1J7-927-1J0	COIL,270UH
L4302	S2-1J7-947-1J0	COIL,470UH
L4303	S2-1J7-933-1J0	COIL,330UH
L4304	87-003-144-010	COIL,6.8UH
L4305	S2-1B7-310-1K0	COIL,100UH
L4308	87-003-102-010	COIL,10UH
L4310	S2-1LA-615-0J0	COIL,15UH
L4320	S2-1B6-339-1K0	COIL,390UH
	*** VARIABLE RESISTORS ***	
VR4001	S1-263-14B-TA0	SFR,10KB
VR4003	S1-263-H4B-TA0	SFR,22KB
VR4004	S1-263-H4B-TA0	SFR,22KB
VR4005	S1-263-14B-TA0	SFR,10KB
	*** FILTER ***	
PF4001	S1-4JL-506-020	LPF,4JL5060
	*** DELAY LINE ***	
DL4302	S0-412-4R4-390 S0-412-4R4-3B0	DELAY,LINE EFD-JF1 OR DELAY,LINE EFD-JLA
	*** CRYSTAL ***	
X4301	S0-06A-4R3-030	X'TAL,4.43361MHZ

REF.NO.	PART NO.	DESCRIPTION
	HEAD AMP PCB ASS'Y	
	*** CAPACITOR ***	
C4102	87-010-553-010	CAP,E 47-16V
	*** IC ***	
IC4101	87-002-792-010	IC,LA7376ST
	*** COIL ***	
L4101	S2-1B7-B10-1K0	COIL,100UH
	IF PCB ASS'Y	
	*** CAPACITORS ***	
C6011	87-010-490-010	CAP,E 0.1-50V
C6014	87-015-995-010	CAP,E 4.7-50V
C6019	87-015-694-010	CAP,E 0.47-50V
C6022	87-010-035-010	CAP,E 2.2-50V
C6026	87-010-560-010 S5-1HT-510-0M0 S0-M3T-510-0M0	CAP,E 10-50V OR CAP,E 10-50V CAP,E 10-50V
C6027	87-015-718-010	CAP,E 47-16V
C6034	87-015-694-010	CAP,E 0.47-50V
	*** DIODES ***	
D6001	S1-SS1-320-000	DIODE,1SS132T
D6003	S1-SS1-320-000	DIODE,1SS132T
D6502	S1-SS1-320-000	DIODE,1SS132T
	*** IC ***	
IC6001	S0-3DA-757-7L0	IC,LA7577L
	*** TRANSISTORS ***	
Q6003	SN-YTC-050-010	TR,DTC124E
Q6004	SC-3T0-300-000	TR,2SC3000
Q6005	S8-YA2-412-K00	TR,2SC2412
Q6008	S6-3A0-117-900	TR,2SA117
Q6502	SN-YTC-050-010	TR,DTC124E
	*** COILS ***	
L6001	S2-1LA-6R8-2M0	COIL,0.82UH
L6003	87-003-102-010	COIL,10UH
L6005	87-003-146-010	COIL,15UH
L6006	87-003-146-010	COIL,15UH
L6007	87-003-150-010	COIL,68UH
L6008	S2-1B7-310-1K0	COIL,100UH
L6009	S2-1LA-612-0K0	COIL,12UH
L6010	S3-360-003-4N0	COIL,V IFT 3600034
L6011	S3-360-003-5N0	COIL,V IFT 3600035
L6014	S3-360-M00-210	COIL,V IFT 360M002
L6030	S2-1L9-6R8-2M0	COIL,0.82UH
	*** VARIABLE RESISTORS ***	
VR6001	S1-263-14B-TA0	SFR,10KB
VR6002	S1-263-14B-TA0	SFR,10KB
	*** FILTERS ***	
CF6001	S0-272-38R-910	FLTR,F-1044Q
CF6003	S0-12T-5R5-020	FLTR,CER SFE5.5M
CF6004	S0-12T-5R5-030	FLTR,CER TPS5.5M
CF6005	S0-12T-5R5-050	FLTR,CER CDSH5.5
	EARPHONE PCB ASS'Y	
	*** JACK ***	
J351	S6-0C1-210-080	JACK,RCA 3.5
	AND OTHERS	
L001	S2-AXA-509-C10	CORE,FERRITE ESD-R-16C
⚠ L002	S2-A6B-9A9-700	CORE,FERRITE HF70T29*7.5*19
⚠ L002	S2-A6B-2E0-A10	CORE,FERRITE HF70T22*10*14
⚠ L503	S2-8Q1-400-180	COIL,DEGAUSS 8Q140018
CF001	S1-6F3-0H4-Z10	FLTR,EMI LTSTF223ZB
⚠ CD501	S2-016-558-060	AC,CORD 1201655806
⚠ SP351	S7-0V1-310-030 S7-0T1-310-070	SPKR S08J72 OR SPKR A-30C-1378
⚠ V801	S9-8Q1-404-250 S9-8G1-404-250	CRT,370KRB22-T OR CRT,370KRB22-T
⚠	S5-000-083-100	DY,ZEC-91403

CHASSIS/FRONT LOADING REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	Q'TY
301	S5-OP5-000-230	TRANSISTOR SPR	1
302	S5-OA6-001-390	TENSION,BAND ASS'Y	1
303	S5-OA4-000-770	TENTION ARM ASS'Y	1
304	S5-OP8-001-410	TENTION ARM SPR	1
305	S5-OA2-000-360	S REEL ASS'Y	1
306	S5-OA6-001-360	MAIN BRAKE S ASS'Y	1
307	S5-OP8-001-870	MAIN BRAK SPR	2
308	S5-OP6-003-090	ARM,S-S BRAKE	1
309	S5-OP8-001-640	SS BRAK SPR	1
310	S5-OA4-001-080	BASE,S INCLINED ASS'Y	1
311	S5-OP8-001-900	MAIN BRAK SPR 3	1
312	S5-OA2-000-350	T REEL ASS'Y	1
313	S5-OA6-001-350	MAIN BRAKE T ASS'Y	1
314	S5-OA4-001-090	BASE,T INCLINED ASS'Y	1
315	S5-OP6-004-320	ROLLER,IMPEDANCE	1
316	S5-OP0-002-850	CS-RING 2.6-5.4-T0.1	1
317	S1-471-308-040	VIT+3-8	1
318	S5-OP6-003-060	LEVER,REC.SW	1
319	S5-OP5-000-420	AC HEAD BASE 2	1
320	S5-OP8-002-330	SPR,AC HEAD BASE 2	1
321	S5-OA6-001-480	LOAD MOTOR BOX A A'Y	1
322	S5-OP6-003-170	BELT,LOADING MOTOR	1
323	S5-OA5-000-080	PINCH ROLLER LEVER ASS'Y	1
324	S5-OP6-003-140	X ADJ NUT	1
325	-----	MAIN CHASS ASS'Y Z2	1
326	S5-OA4-000-730	PINCH ROLLER ARM ASS'Y	1
327	S5-OP8-001-490	PINCH ROLLER ARM SPR	1
328	S5-OA4-000-780	LIMIT,POST ARM ASS'Y	1
329	S5-OP8-001-480	LIMIT POST ARM SPR	1
330	S5-OP6-003-050	CAM 1	1
331	S5-OA6-001-140	WORM ASS'Y	1
332	S5-OA4-001-020	G-ROLLER ASS'Y	1
333	S5-OA3-000-310	LOUD LEVER 2 ASS'Y	1
334	S5-OP6-004-540	LEVER,SUB BRAKE	1
335	S5-OA9-000-830	FRONT LOUD LEVER ASS'Y	1
336	S5-OA3-000-300	LOUD ARM ASS'Y(TU)	1
337	S5-OA3-000-290	LOUD ARM ASS'Y(SUP)	1
338	S5-OA6-001-370	TS BRAKE ASS'Y	1
339	S5-OP8-001-650	TS BRAK SPR	1
340	S5-OA2-000-430	CLUTCH ASS'Y	1
341	S5-OA2-000-380	IDLER JS ASS'Y	1
342	S5-OP6-004-100	LEVER,MAIN BRAKE 1	1
343	S5-OP6-003-100	ACTUATOR,SUB BRAKE	1
344	S5-OA6-001-290	CLUTCH ACTUATOR JS ASS'Y	1
345	S5-OP6-003-030	TENTION LEVER	1
346	S5-OP4-003-260	O-RING	1
347	S5-OP6-003-810	SLIDE,MAIN BRAKE	1
348	S5-OP8-001-880	MB SLIDE SPR	1
349	S5-OA6-001-090	MB LEVER 2 ASS'Y	1
350	S5-OA6-001-080	TENTION ARM SLIDE ASS'Y	1
351	S5-OP6-004-160	LEVER,LIMITER POST	1
352	S5-OP6-004-090	LEVER,CLUTCH ACTUATOR	1
353	S5-OP3-001-120	SLIDE LOUDING 2	1
354	S5-OP6-003-040	CAM 2	1
355	S5-OA6-000-990	MAIN BRAK LEVER 3 ASS'Y	1
356	S5-OA3-000-430	GEAR LOADING S ASS'Y	1
357	S5-OA3-000-440	GEAR LOADING T ASS'Y	1
358	S5-OP8-001-910	LOUD GEAR SPR	2
359	S5-OP8-001-670	AJIMTH SPR	1
360	S1-44J-306-040	SCREW,M3-6	1
361	S1-462-30A-310	SCREW,M3-13	1
362	S5-OP5-000-100	ADJ NUT	1
363	S5-OP8-001-890	FLONT LOUD LEVER SPR	1
364	S5-OP6-003-190	PULLEY,LOADING MOTOR	1
365	S5-OP6-003-160	BELT,REEL	1
366	S5-OA4-000-880	GUIDE ROLLER ASS'Y	1
367	-----	LID,AMP SHIELD	1
368	-----	CASE,AMP SHIELD	1
369	S5-OP0-002-620	WORM BRAKET 3	1
370	S5-OP6-003-150	BELT,FRONT LOADING	1
371	S5-OA4-001-120	ARM,AHC UNIT	1
372	S5-OP8-002-360	SPR,AHC 1	1
373	S5-OA6-001-520	BRAKE,TB 2 ASSY	1
374	S5-OP6-004-570	ARM,S-B BRAKE	1
401	S5-OP9-004-300	RING GEAR(L)	1
402	S5-OP8-001-750	SPR RING GEAR(L)	1
403	S5-OP9-005-250	SYNCHRO GEAR	2
404	S5-OP9-004-510	FLAP LEVER 2	1
405	S5-OP9-004-400	SENSOR COVER	1
406	S5-OA9-001-280	TOP BRAKE ASS'Y	1
407	S5-OP9-004-580	LOCKER	1
408	S5-OP8-001-540	LOCKER SPR	1
409	S5-OP9-005-350	CASS,SIDE L	1

REF.NO.	PART NO.	DESCRIPTION	Q'TY
410	S5-OP9-003-540	PACK SPR	1
411	S5-OP9-005-360	CASS,SIDE RA	1
412	S5-OP9-004-740	REMOVING 2	1
413	S5-OP8-001-980	SPR,REMOVING 2	1
414	S5-OA9-001-220	CASS HOLDER SUB ASS'Y	1
415	S5-OP9-002-670	SYNCHRO SHAFT	1
416	S5-OP9-005-290	TAPE GUIDE PIECE	1
417	S5-OP9-005-320	BRAKT,SIDE RIA	1
418	S5-OP9-004-160	FRONT LOUD SWITCH LEVER	1
419	S5-OP8-001-580	FRONT LOUD SW LEVER SPR	1
420	S5-OA9-001-290	SIDE BRAKE R2 ASS'Y	1
421	S5-OP9-004-310	RING GEAR(R)	1
422	S5-OP8-001-530	CLUCH GEAR SPR	1
423	S5-OP8-001-810	RING GEAR SPR R2	1
424	S5-OP9-004-320	CLUCH GEAR	1
425	S5-OP9-004-170	LOCK LEVER	1
426	S5-OP8-001-590	LOCK LEVER SPR	1
427	S5-OP9-004-380	WHEEL	1
428	S5-OP9-004-350	CLUCH LEVER	1
429	S5-OP9-004-340	SLIDE LEVER	1
430	S5-OP8-001-800	SLIDE LEVER SPR 2	1
431	S5-OP9-005-310	JOINT PULLEY 2	1
432	S5-OA9-000-890	WORM ASS'Y	1
433	S5-OP9-004-500	OPENER A	1
434	S5-OP8-001-720	OPENER SPR A	1
435	S4-510-1A6-900	HOLDR,CASS ASS'Y	1
436	S4-480-2A6-400	BRKT,SIDE R ASS'Y	1
437	S5-OP9-005-230	FRONT LOUD EARTH SPR	1
438	S5-OP8-002-300	LOCKER(R)SPR	1
439	S5-OP8-002-430	SPR,EARTH	1
501	S1-071-266-040	UT2+2.6-6	3
502	S1-021-304-040	V+3-4	2
503	S1-072-268-040	VT2+2.6-8	1
504	S1-072-30A-440	TAP(S)V+3-14	2
505	S1-072-30A-640	UT2+3-16	2
506	S1-072-306-040	TAP(S)U+3-6	3
507	S1-072-308-040	TAP(S)U+3-8	3
508	S1-102-308-040	UT2+3-8	1
509	S3-ETW-250-000	E RING 2.5	2
510	S2-Q31-54B-3N0	PW,3.1-5.4-T0.13	2
	S2-Q31-540-3N0	PW,3.1-5.4-T0.3	2
511	S2-P25-550-4N0	PW(CUT)2.5-5.5-T0.4	8
512	S2-P30-600-5N0	PW(CUT)3.1-6.0-T0.5	4
513	S2-A32-700-540	WASHER 3.1-7.0-T0.5	2
514	S2-A40-800-540	WASHER 4.3-8.0-T0.5	1
515	S1-022-266-010	UT2+2.6-6	1
516	S1-5DJ-203-020	SCREW,M2*3	2
517	S1-45J-306-010	SCREW,M3*6	1
518	S3-CST-350-500	CS RING 3.5	2
519	S3-ETW-300-600	E RING 3.0	1
520	S1-17B-268-040	(BO)WH6 2.6*8	1
521	S2-P26-60C-5N0	PW(CUT)2.6-6.0-T0.25	1
522	S1-072-304-040	UIT+3-4	2
523	S1-071-261-440	VIT+2.6-14	1
524	S1-071-264-040	VIT+2.6-4	1
550	S2-Q31-540-5N0	PW,3.1-5.4-T0.5	1
551	S6-817-CGA-040	SCREW,(BO)U+2.6*10	3
552	S1-072-205-040	UIT+2-5	2
D1101	S0-10G-000-300	LED,GL451T	1
H5001	S5-23D-910-150	HEAD,A/C HVMZA1141A	1
H5002	S5-43D-020-050	FEH,HVFHF0001A	1
⚠ L1501	S2-BH0-000-050	MAGNET JTM1002-01-0100	1
⚠ M101	S5-96P-580-080	MOTOR,LOAD MXN-13FB	1
⚠ M2001	S5-103-980-240	CAPSTAN,MOTOR F2QTB02	1
Q1101	S0-00G-000-400	PHOTO,TR PT493FT	1
Q1102	S0-00G-000-400	PHOTO,TR PT493FT	1
Q1510	S0-023-001-400	PHOTO,SPI-315-04	1
SW101	S5-002-110-010	PUSH SWITCH SPPB61023A	1
SW102	S5-20U-440-020	SW,ROTARY SRZZOBO	1
SW103	S5-012-110-010	SW,PUSH SPPB51096A	1
⚠ UN4001	S4-615-3A5-000	CYLINDER UNIT ASSY	1

MECHANICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	Q'TY
101	-----	CABI.FRONT ASS'Y	1
102	S0-1WP-J02-180	CABI.FRONT	1
103	S1-2WP-D00-620	FLAP	1
104	S3-5WP-B00-030	BUTTON.CONTROL	1
105	S3-5WP-D01-100	BUTTON.DECK	1
106	S2-344-900-070	BADGE.BRAND	1
107	S4-3WK-A00-050	SPR.FLAP	1
108	S1-3WP-A00-260	GLASS.LED(1)	1
109	S1-3WP-A00-270	GLASS.LED(2)	1
110	S1-1WP-J00-030	PANEL.DECK	1
111	-----	HLDR.PCB(L)	1
112	-----	HLDR.PCB(R)	1
113	S3-5MP-A00-140	BUTTON.POWER	1
114	S1-1WP-D00-640	PLATE.FRONT	1
115	-----	LABEL.FOOT	2
116	S1-3WP-A00-280	GUIDE.REMOCON	1
117	-----	SH.CRT SUPPORT(A)	4
118	-----	CABI.HOLDER	4
119	-----	HLDR.ANODE LEAD	1
120	S5-0P6-004-380	BELT.FRONT LOAD 2	1
121	S5-0P8-001-570	SPR.FLAP FRONT LOAD	1
122	S0-2WP-A01-410	CABI.INSIDE	1
123	-----	FILM.DECORATION	1
124	-----	SPR.EARTH	1
125	-----	FRAME.PCB	1
126	-----	SHIELD.IC	1
127	-----	ANGLE.FBT	1
128	-----	METAL SPACER	4
129	-----	HEAT SINK	1
130	-----	HEAT SINK	1
131	-----	HEAT SINK	1
132	-----	HEAT SINK	1
133	-----	HEAT SINK	1
134	-----	HEAT SINK	1
135	-----	HEAT SINK	1
136	-----	CORD CLAMP NO.PEC-034-0	2
137	-----	CABI.BACK ASS'Y	1
138	S0-2WP-A01-060	CABI.BACK	1
139	-----	SH 18-15-T0.8	5
140	-----	HLDR.SPEAKER	1
141	-----	SH.RATING	1
142	-----	HLDR.BUTTON CONTROL	1
143	S5-2WS-A00-460	PLATE.SHIELD	1
144	S0-2WS-A00-030	CABI.BOTTOM	1
145	S0-2WS-A00-120	CABI.TOP	1
146	S9-0UA-MS0-700	MINI CLAMP	1
147	-----	CORD CLAMP NO.P-45	2
148	S7-1WP-A01-120	PLATE.JACK	1
149	-----	SPR.EARTH M-PCB	1
150	-----	COATING CLIP CP-1S	2
151	S4-890-1A6-500	FRONT LOAD UNIT(FL-6B)	1
152	-----	HLDR.PANEL DECK	1
153	-----	HEAT SINK	1
154	-----	SH.PTB	1
155	S5-3WU-A00-080	SPR.EARTH P-TOP	1
156	S5-4JN-A00-040	PLATE.REMOCON(B)	1
157	S9-9SF-111-000	WIRE.CLAMP	1
158	S5-2WS-A00-320	IF SHIELD CASE	1
159	S5-2WS-A00-330	IF SHIELD BOTTOM	1
201	S1-41J-50D-040	GW22+5-40	4
202	S1-175-40A-640	TAP(BO)4-16	8
203	S1-171-40A-240	TAP(BO)V+4-12	3
204	S1-175-40A-240	TRUSS+4-12	2
205	S1-175-40A-040	TAP(BO)4-10	2
206	S1-106-30A-440	UIT+3-14	2
207	S1-17D-30A-040	TAP(BO)3-10	5
208	S1-173-30A-040	TAP(BO)3-10	1
209	S1-174-30A-020	TAP(BO)3-10	2
210	S1-106-30A-040	UIT+3-10	1
211	S1-072-308-040	TAP(S)U+3-8	2
212	S1-106-308-040	TAP(P)3-8	5
213	S1-106-306-040	UIT+3-6	1
214	S1-072-306-040	TAP(S)U+3-6	2
215	S1-072-304-040	UIT+3-4	1
216	S1-0A1-308-040	WASHER(A)M3-8	4
217	-----	WASHER 9.1*22-T1	4
218	S1-076-306-040	TAP(S)3-6	3

ACCESSORY REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	Q'TY
ANT001	S2-511-080-070	ANT.ROD T4-216B	1
TM101	S7-6G0-201-000	REMOTE CONTROLLER	1
---	S3-B60-901-010	INSTRUC.BOOK	1
---	S3-B60-903-010	SCEMATIC DIAGRAM	1
---	S3-B60-913-010	ELECTRICAL ADJUSTMENT	1